

## Supplementary Online Content

Man KKC, Coghill D, Chan EW, et al. Association of risk of suicide attempts with methylphenidate treatment. *JAMA Psychiatry*. Published online July 26, 2017. doi:10.1001/jamapsychiatry.2017.2183

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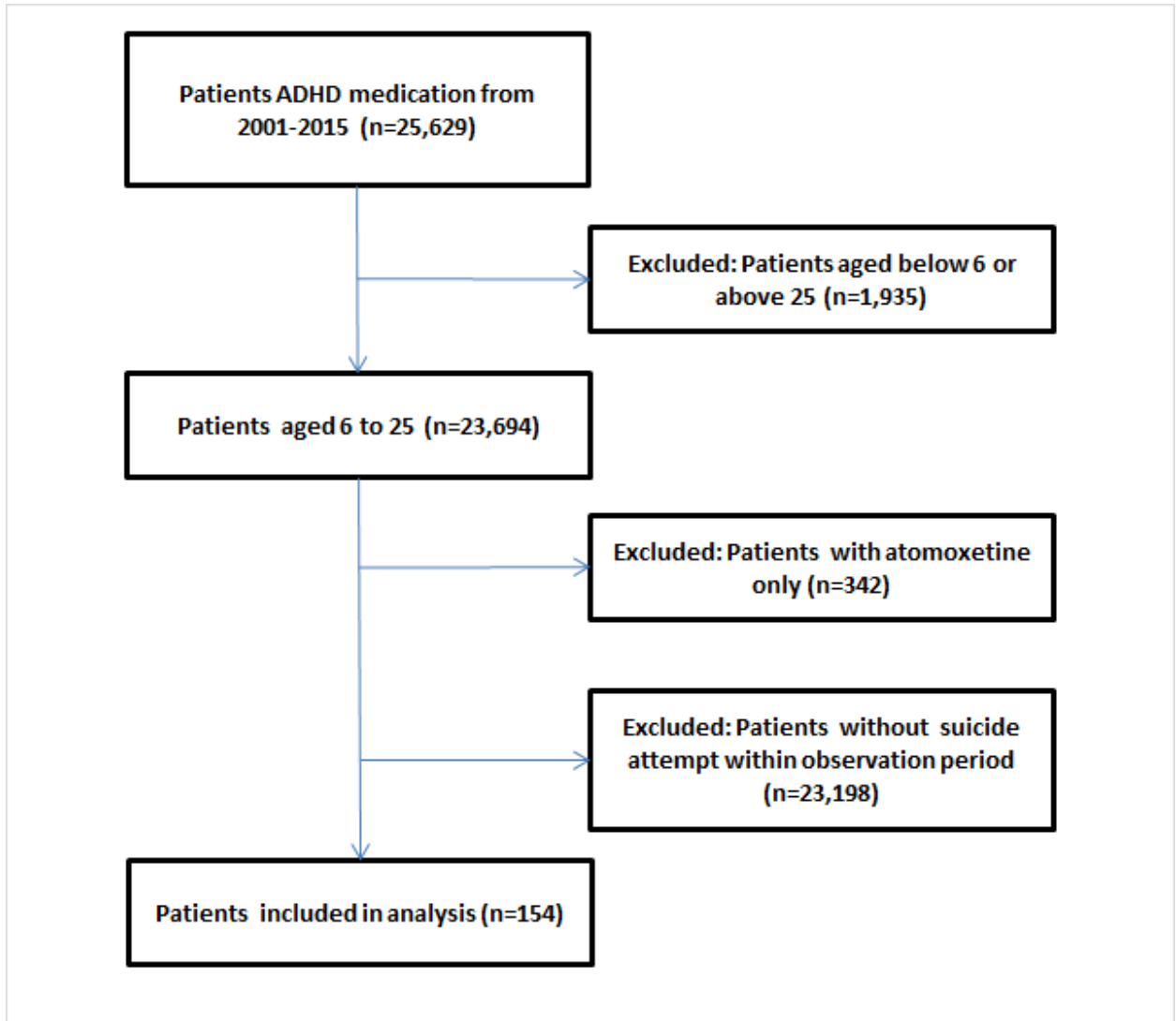
This supplementary material has been provided by the authors to give readers additional information about their work.

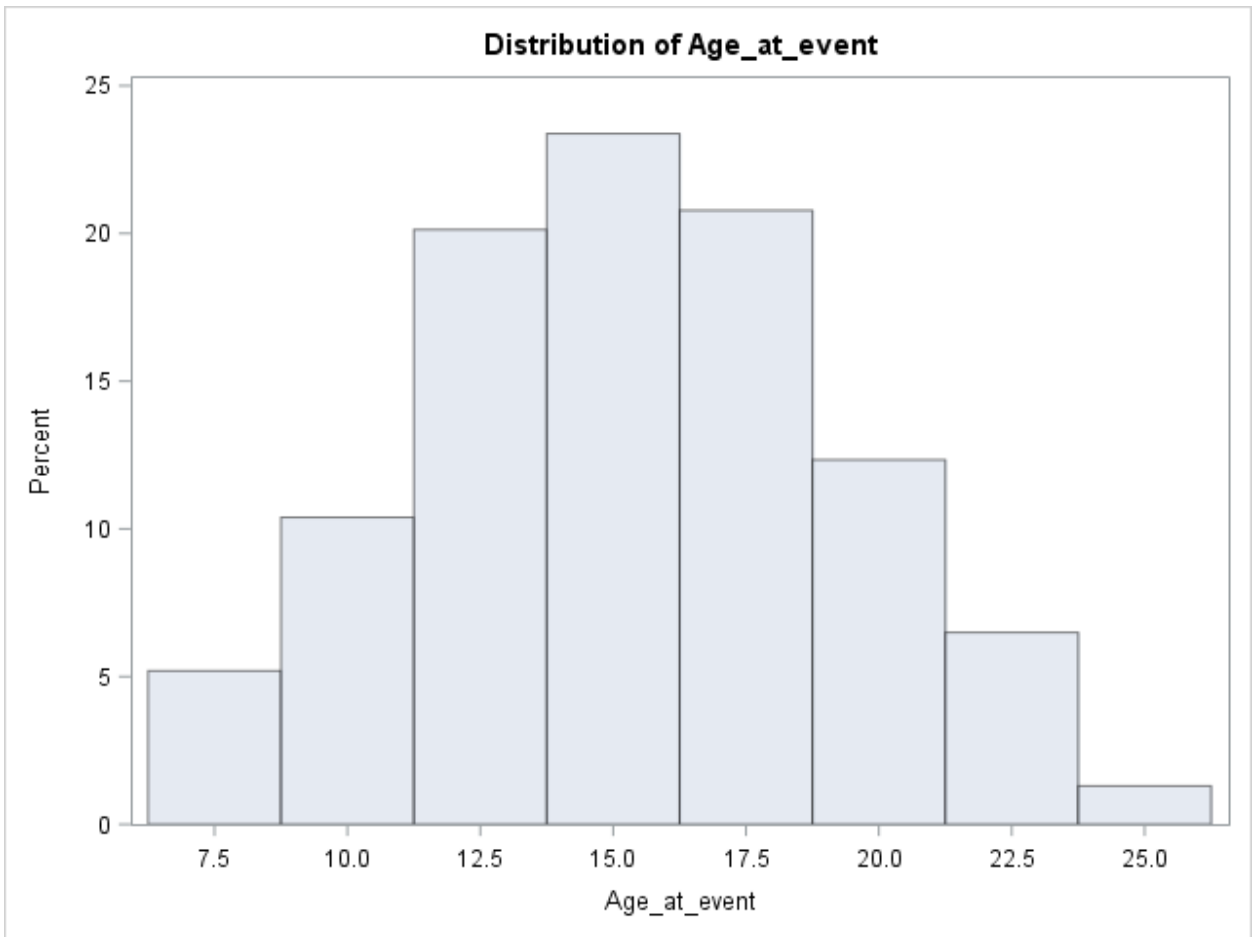
## **eAppendix 1. Sensitivity Analyses**

Several sensitivity analyses were planned to test the validity and robustness of the initial study results.

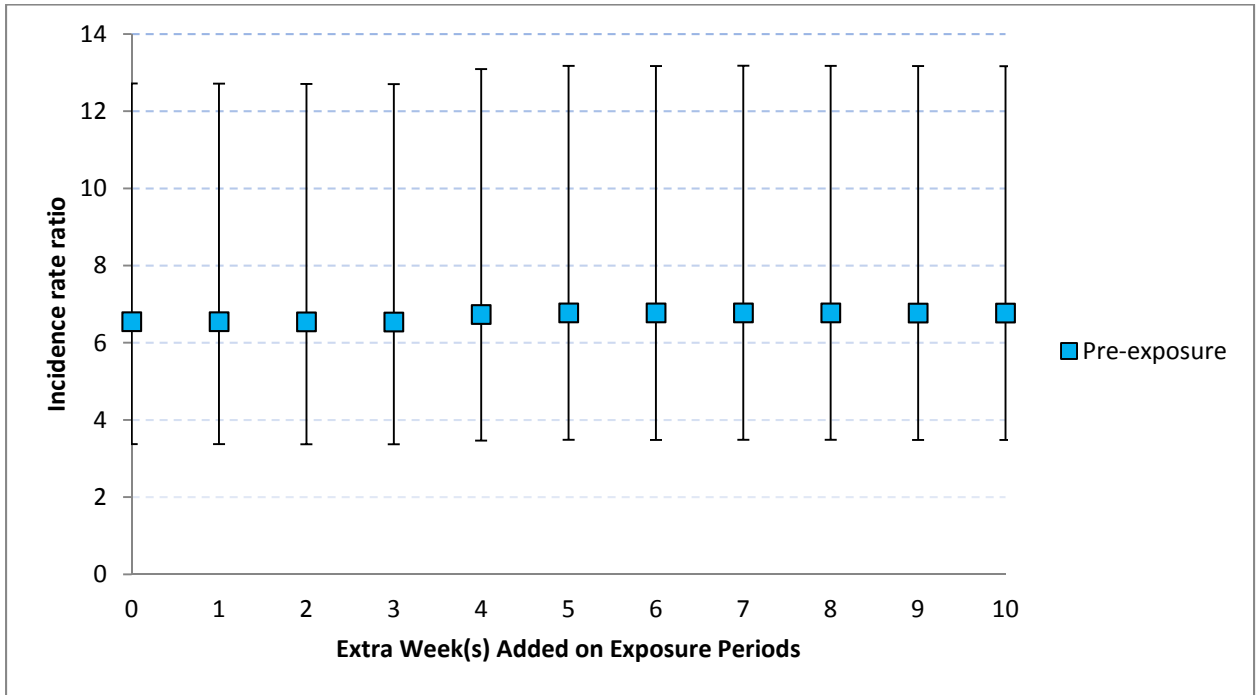
- 1) Alternative analyses were conducted based on different drug non-adherence scenarios. Each exposed period was further extended by adding 1 to 10 weeks after the end of an exposed period to assess this effect.
- 2) To assess the sensitivity of the age-banding used, an analysis with a 6-month age band rather than annual bands was conducted.
- 3) Additional analyses were conducted on a subset of patients with more than 10 weeks of MPH exposure in order to test the effects of more prolonged medication exposure.
- 4) Patients with a diagnosis of substance misuse/dependence (ICD-9-CM: 303-305) were removed from the analysis as this may affect the occurrence of suicide attempt.
- 5) The individual observation period was censored by the date of prescription of any antidepressant or antipsychotic medications during the study period as these medications may potentially interact with MPH.
- 6) Cases where the event occurred on the first day of prescription were removed. As we do not have the exact time of event, it is difficult to determine if the event occurred before or after the medication started.
- 7) By starting the observation period at 1st January 2001, the 6th birthday of the patient, the first observed date of ADHD diagnosis or the first date of MPH treatment, whichever occurred later as risk of suicide attempt may be different before the ADHD diagnosis.
- 8) Patients with MPH exposure before the start of the observation period were removed from the analyses. As the self-controlled case series compared the incidence within an individual, included individuals were not necessary to be incident users of MPH. This will assess this potential effect.

**eFigure 1.** Flowchart of Patient Identification

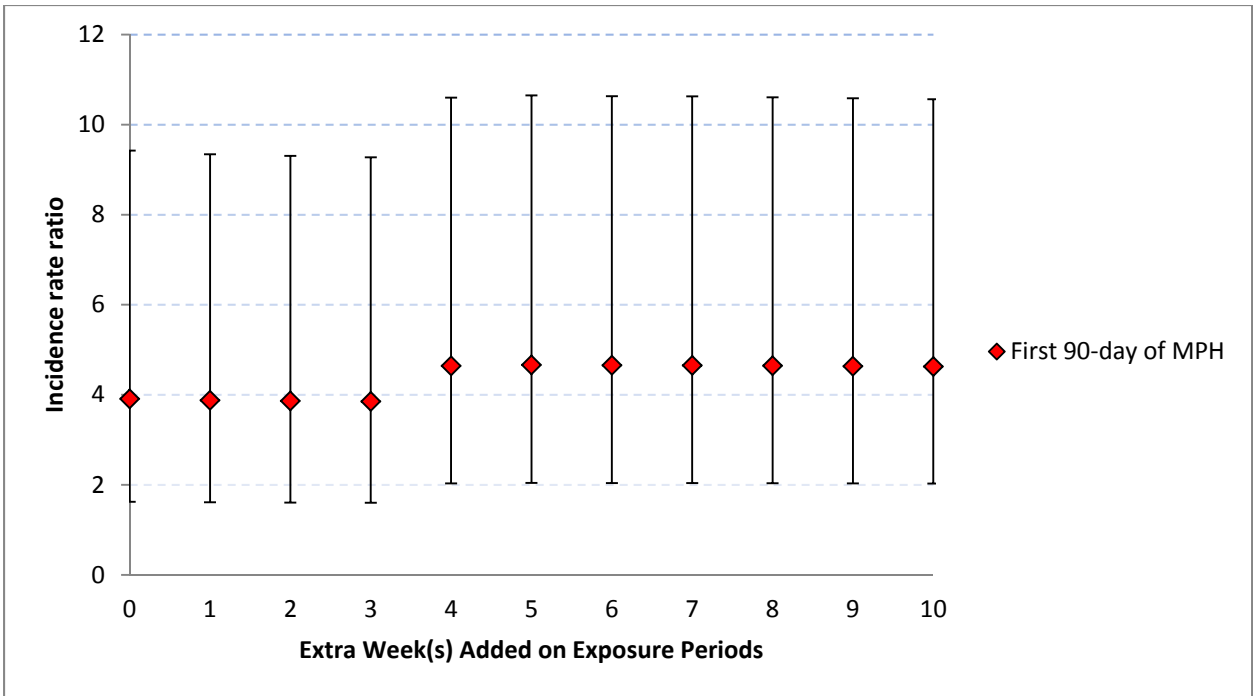




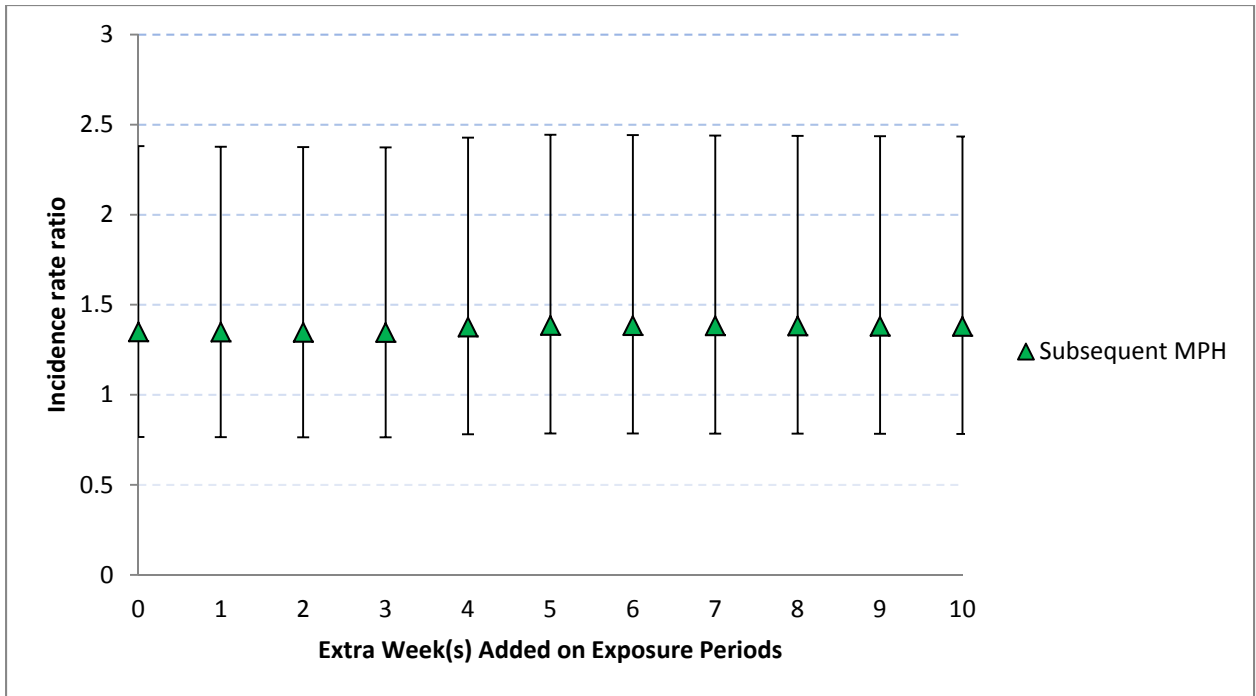
**eFigure 2.** Histogram of Age at the First Suicide Attempt



**eFigure 3.** Sensitivity Analysis on Exposure Periods by Adding 1 to 10 Weeks After the End of an Exposed Period: Incidence Rate Ratio (IRR) of Suicide Attempt in the 90-Day Pre-Exposure Period



**eFigure 4.** Sensitivity Analysis on Exposure Periods by Adding 1 to 10 Weeks After the End of an Exposed Period: Incidence Rate Ratio (IRR) of Suicide Attempt in the First 90-Days MPH Exposure Period



**eFigure 5.** Sensitivity Analysis on Exposure Periods By Adding 1 To 10 Weeks After The End Of An Exposed Period: Incidence Rate Ratio (IRR) of Suicide Attempt in MPH Treatment After the First 90 Days

**eTable 1.** Psychiatric Comorbidities of Patients With Suicide Attempt

	<b>ICD-9-CM<sup>a</sup></b>	<b>Number of Patients</b>	<b>(%)</b>
Acute reaction to stress	308	26	16.9
Adjustment disorder	309	31	20.1
Anxiety disorder	293.84, 300	15	9.7
Autism spectrum disorder	299	23	14.9
Depressive disorder	296.2, 296.3, 311	15	9.7
Disturbance of conduct not elsewhere classified	312	25	16.2
Disturbance of emotion	313	45	29.2
Intellectual Disabilities	317-319	16	10.4
Specific delays in development	315	21	13.6
Other psychiatric co-morbidities <sup>b</sup>	290-319	72	46.8

<sup>a</sup>ICD-9-CM = The International Classification of Diseases, Ninth Revision, Clinical Modification  
<sup>b</sup>Other psychiatric co-morbidities included all other disorders from ICD-9-CM code 290-319 which were not listed above



**eTable 2.** Psychiatric Comorbidities of Patients With Suicide Attempt but Without ADHD Diagnosis

	<b>ICD-9-CM<sup>a</sup></b>	<b>Number of Patients</b>	<b>(%)</b>
Acute reaction to stress	308	7	16.7
Adjustment disorder	309	6	12.3
Anxiety disorder	293.84, 300	5	11.9
Autism spectrum disorder	299	16	38.1
Depressive disorder	296.2, 296.3, 311	11	26.2
Disturbance of conduct not elsewhere classified	312	6	12.3
Disturbance of emotion	313	6	12.3
Intellectual Disabilities	317-319	8	19.0
Specific delays in development	315	5	11.9
<sup>a</sup> ICD-9-CM = The International Classification of Diseases, Ninth Revision, Clinical Modification			

**eTable 3.** Result of Age and Gender Stratified Analyses

	IRR	95%CI		p-value
<i>Sex</i>				
<i>Male (n=111)</i>				
90-day before 1st MPH treatment	5.65	2.25	14.18	< 0.01
First 90-day with MPH treatment	4.44	1.49	13.20	< 0.01
Subsequent MPH treatment	1.59	0.82	3.11	0.17
<i>Female (n=43)</i>				
90-day before 1st MPH treatment	8.27	3.04	22.5	< 0.01
First 90-day with MPH treatment	3.21	0.69	14.88	0.14
Subsequent MPH treatment	1.06	0.36	3.15	0.92
<i>Age</i>				
<i>Age 12 or above (n=134)</i>				
90-day before 1st MPH treatment	4.68	1.99	11.03	< 0.01
First 90-day with MPH treatment	3.21	1.09	9.45	0.03
Subsequent MPH treatment	0.83	0.42	1.62	0.59
<i>Age below 12 (n=20)</i>				
90-day before 1st MPH treatment	15.74	3.74	66.28	< 0.01
First 90-day with MPH treatment	6.41	1.09	37.77	0.04
Subsequent MPH treatment	2.72	0.53	13.97	0.23

**eTable 4.** Result of Post Hoc Analysis

	IRR	95%CI		p-value
<i>Any psychiatric condition (n=18,696)</i>				
90-day before 1st MPH treatment	22.14	21.31	22.99	< 0.01
First 90-day with MPH treatment	9.40	8.94	9.88	< 0.01
Subsequent MPH treatment	1.53	1.44	1.62	< 0.01