



## EXECUTIVE SUMMARY

CE Outcomes, LLC, an independent healthcare assessment company, collaborated with National Association for Continuing Education (NACE) to assess the impact of a Performance Improvement (PI) continuing medical education (CME) program on the topic of ADHD, titled *Adults with ADHD: Making Exam Room Decisions*. The program was supported by an educational grant from Lilly USA, LLC. This complimentary PI-CME activity was designed to help healthcare providers (physicians, nurse practitioners, and physician assistants) improve their skills in the assessment, diagnosis, and treatment of adults with ADHD.

A total of 6 measures adapted from the Canadian ADHD/ADD Resource Alliance (CADDRA) ADHD practice guidelines 2008 were specifically addressed in the PI-CME program and outcomes assessment study. The following measures were included:

1. The healthcare provider conducts an interview that reviews the patient's current complaints, history, domains of impairment, and other relevant areas of ADHD diagnostic criteria as well as the most common comorbid disorders likely to present with ADHD.
2. The healthcare provider includes rating scales to assess the presence and frequency of core ADHD symptoms in adults.
3. The healthcare provider gathers corroborating evidence to determine symptom presence and functional impairment.
4. When indicated, a pharmacologic treatment plan is developed that includes FDA-approved medications indicated to treat adults with ADHD.
5. The healthcare provider advises psychosocial interventions, when indicated.
6. The healthcare provider provided frequent follow-up contacts that allow sufficient time to monitor the patient's clinical status, environmental conditions, and if appropriate, medication side effects to adjust the pharmacologic treatment plan.

Impact on healthcare provider management of adults with ADHD was measured using a chart-review tool that was integrated into the ADHD PI-CME platform. At the start of the PI-CME activity (Stage A), participants submitted data from 5 patient charts to determine their baseline performance. After completing an educational intervention and implementing their quality improvement plan during Stage B, participants repeated the self-assessment survey and submitted data from 5 patients seen since the Stage A assessment. Comparisons of the chart-review results from Stage A to Stage C were the basis for determining the impact of the program.

### CONCLUSIONS

The participants of the PI-CME program, *Adults with ADHD: Making Exam Room Decisions*, made improvements across multiple key performance measures including:

- Providing a comprehensive patient assessment for adult patients with symptoms of ADHD
- Utilizing ADHD rating scales in the initial assessment of adult patients with symptoms of ADHD
- Recommending psychosocial interventions as part of a comprehensive treatment plan for adults diagnosed with ADHD

The PI-CME program also reinforced additional key measures for participants including:

- The need for frequent follow-up after an ADHD treatment plan is established
- The use of corroborating evidence to determine the severity of ADHD symptoms when diagnosing an adult patient with ADHD
- The need for a comprehensive treatment plan inclusive of pharmacologic and non-pharmacologic interventions

# Impact Assessment Report: ADHD Performance Improvement-CME Program

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## Table of Contents

Study Overview .....	4
Program Information.....	4
Methods .....	6
Data Analysis .....	6
Results and Analysis .....	7
Participant Demographics .....	7
Obtaining Patient History .....	8
ADHD Rating Scales .....	10
Use of Corroborating Evidence .....	13
Pharmacologic Treatment Plan: Adult Patients with ADHD.....	15
Non-pharmacologic Treatment Plans for Adults With ADHD.....	19
Follow-up Contact for Adult Patients With ADHD.....	22
Summary of Findings .....	24
Appendix A: Patient Criteria for Chart Audit and Chart-audit Tool.....	25
Appendix B: Full Data Set for Patient Chart-audit Data .....	30
Appendix C: References .....	39

## Study Overview

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CE Outcomes, LLC, an independent healthcare assessment company, collaborated with NACE to assess the impact of the ADHD Performance Improvement (PI)-CME program, *Adults with ADHD: Making Exam Room Decisions*. The PI-CME program was supported by an educational grant from Lilly USA, LLC. The impact on healthcare provider management of adults with ADHD was measured using a chart-review tool that was integrated into the ADHD PI-CME platform. The chart review specifically aimed to examine practice patterns related to the use of assessment scales, treatment strategies, and follow-up care for adults diagnosed with ADHD. The chart review was completed by participants at 2 distinct points during the PI-CME program: (1) as part of the self-assessment at Stage A and (2) again at Stage C, when participants repeated the self-assessment. Comparisons of chart-review results from Stage A to Stage C were the basis for determining the impact of the program.

## Program Information

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“PI CME is a certified CME activity in which an accredited CME provider structures a long-term 3-stage process by which a physician or group of physicians learn about specific performance measures, assess their practice using the selected performance measures, implement interventions to improve performance related to these measures over a useful interval of time, and then reassess their practice using the same performance measures.”<sup>1</sup> The 3 stages of PI-CME activities include Stage A, in which healthcare providers self-assess their current practice patterns and performance; Stage B, in which healthcare providers participate in educational and quality improvement interventions to improve performance in specified areas; and Stage C, in which healthcare providers reevaluate their performance.

The goal of the PI-CME program, *Adults with ADHD: Making Exam Room Decisions*, is to improve the performance of physicians and members of the ADHD care team in their diagnosis, treatment, and follow-up care for adults with ADHD.

Specifically at the conclusion of the program, participants should be able to:

- Evaluate your current practice behavior and confidence with respect to diagnosing and treating adults with ADHD in your practice
- Describe existing guidelines and best practices in the diagnosis and treatment of ADHD in adults
- Identify evidence-based and consensus-based tools to evaluate symptoms, level of impairment, and relevant history in adult patients suspected of having ADHD
- Identify risks for co-morbidities in adult patients with ADHD, with emphasis on anxiety disorders, mood disorders, and substance use/abuse disorders
- Plan a pharmacologic treatment program for adults diagnosed with simple ADHD and more complex ADHD that is complicated by co-morbidities
- Identify psychosocial treatments for adults diagnosed with ADHD
- Discuss treatment follow-up to optimize success
- Create an action plan that addresses your specific practice behavior that needs improvement with respect to the care of adults with ADHD

This program followed the 3-stage AMA PRA Category 1 Credit™ Performance Improvement (PI) model, with participants receiving 5 hours of credit for each of the 3 stages completed and an additional 5 hours of credit for completing all of the stages in order—for a total of 20 hours of credit.

**Participants of the program were asked to complete the following for each program stage:**

**Stage A (Pre-assessment Stage)**

Healthcare providers evaluated current practices in providing care to adults with ADHD by completing a brief self-assessment survey and answering chart-review questions on at least 5 patients. Performance was compared to peers and national guidelines along specific performance measures. Healthcare providers selected one or more Quality Improvement Plans (QIP) to improve care to adults with ADHD.

**Stage B (Action Stage)**

Participants implemented one or more of the QIP selected in Stage A by using the materials found in the NACE Adult ADHD Toolkit. Comprehensive educational and informational resources were provided at this stage with online and printed materials.

**Stage C (Post-assessment Stage)**

Participants re-evaluated performance by again completing the self-assessment survey and answering chart-review questions on a second set of 5 patients. Feedback provided to participants explained the improvements that were made in caring for adults with ADHD.

The chart-review/performance-measurement portions of the PI-CME program are based on the 6 objectives of the program.

1. The healthcare provider conducts an interview that reviews the patient’s current complaints, history, domains of impairment, and other relevant areas of ADHD diagnostic criteria as well as the most common comorbid disorders likely to present with ADHD.
2. The healthcare provider includes rating scales such as the Conner’s Adult Rating Scale, Quick Check for Adult ADHD Diagnosis, ADHD-RS, or an ADHD symptom checklist of some type to assess the presence and frequency of core ADHD symptoms in adults.
3. The healthcare provider gathers corroborating evidence to determine symptom presence and functional impairment (eg, interview significant individuals with knowledge of the adults' problems; observer report version of rating scale; review of school, medical, employment, criminal, mental health, and driving records).
4. When indicated, the healthcare provider develops a pharmacologic treatment plan that includes FDA-approved medications indicated to treat adults with ADHD.
5. When indicated, the healthcare provider recommends or provides psychosocial interventions such as patient education about ADHD, cognitive behavior therapy, and activities to address executive function deficits such as poor working memory and time management, academic accommodations, workplace accommodations, and other coping strategies.
6. The healthcare provider provides frequent follow-up contacts that allow sufficient time to monitor the patient's clinical status, environmental conditions, and if appropriate, medication side effects to adjust the pharmacologic treatment plan.

## Methods

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### **Chart-review Form**

The chart-review form assessed clinician performance in assessing, diagnosing, and treating patients with ADHD. At the start of the PI-CME activity (Stage A), participants submitted data from 5 patient charts to determine their baseline performance. To be eligible, charts had to be drawn from patients 18 years or older who have had a diagnosis of ADHD. (See Appendix A for full chart-selection criteria.) After completing an educational intervention and implementing their quality improvement plan during Stage B, participants submitted data from charts of patients seen since the Stage A assessment.

### **Data Analysis**

Data were analyzed using the IBM Statistical Package for Social Sciences 19.0 (SPSS, Inc, Chicago, Illinois). Data were first arrayed and examined by determining frequencies for each chart-review variable. Chi-squared tests were used to evaluate differences between participants in Stage C compared with the data collected from the same participants during Stage A. Differences between the 2 groups are considered significant if the *P* value was found to be 0.05 or less.

## Results and Analysis

As of September 22, 2011, a total of 1,403 healthcare providers have started the ADHD PI-CME program, with a total of 92 healthcare providers in Stage C of the PI-CME program. The data analyzed in this report reflect the 92 healthcare provider completers at Stage A compared with Stage C as well as findings from 926 eligible patient charts they submitted (464 charts at Stage A, 462 charts at Stage C). The full set of data tables for the patient chart audits can be found in Appendix B.

### Participant Demographics

		Healthcare Providers n=92
<b>Degree</b>	MD/DO	23%
	NP	25%
	PA	49%
	RN	1%
	Other	2%
	<b>Specialty</b>	Primary Care
	Psychiatry	12%
	Other	21%

*Other specialties include Allergy & Immunology, Emergency Medicine, Neurology, Orthopedics, Otolaryngology, and Preventative Medicine.*

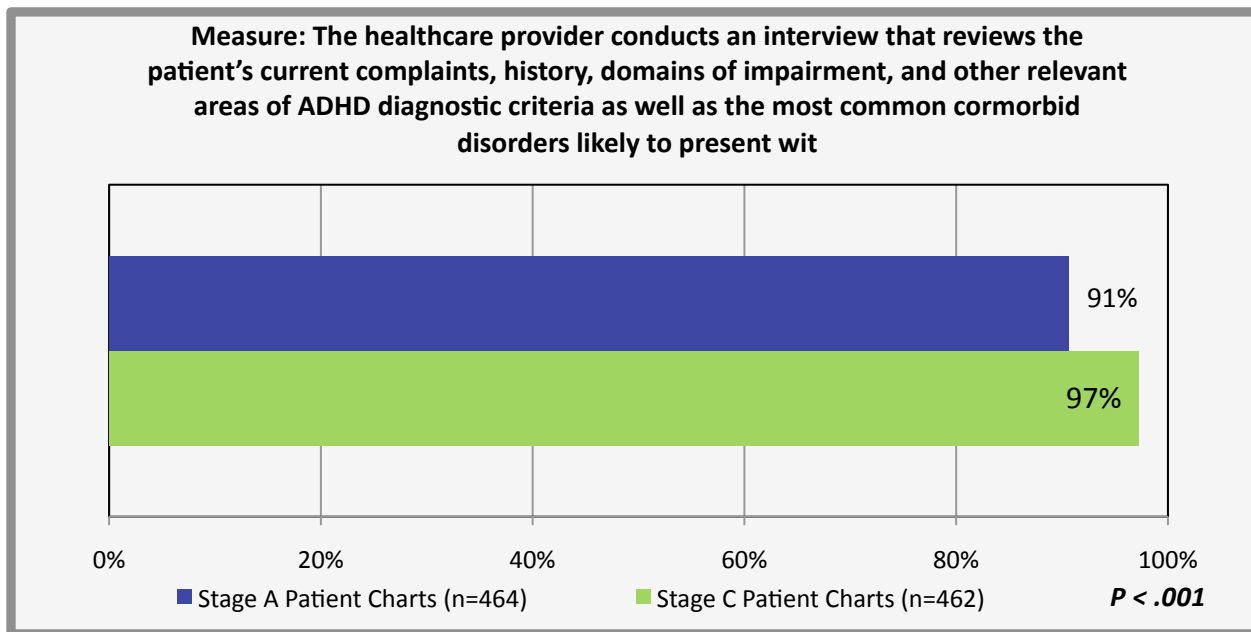
### Patient Demographics

	Stage A Patient Charts n=464	Stage C Patient Charts n=462
<b>Patient Age</b>		
Mean	29	29
Standard Deviation	9	10

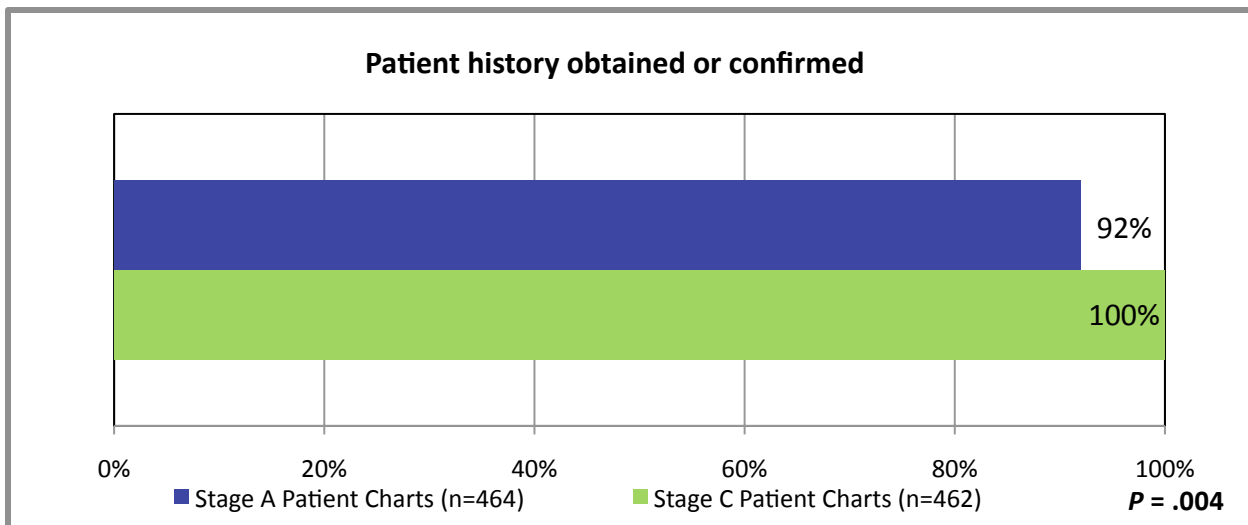
## Obtaining Patient History

**Measure:** The healthcare provider conducts an interview that reviews the patient’s current complaints, history, domains of impairment, and other relevant areas of ADHD diagnostic criteria as well as the most common comorbid disorders likely to present with ADHD.

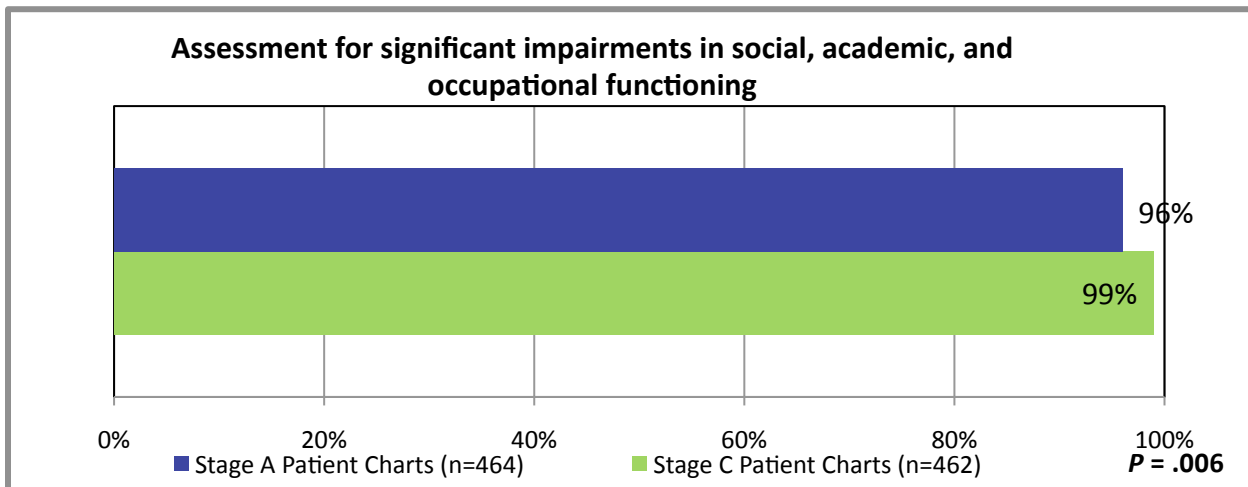
Summary: Healthcare providers who completed Stage C of the ADHD PI-CME program are more likely to perform a comprehensive initial assessment for patients with ADHD symptoms. Specifically, the assessment includes all of the following elements: developmental/academic history; past medical and psychiatric history; medication use; substance use; and family history patient-assessed for significant impairments in social, academic, and occupational functioning; patients were also assessed or screened for common comorbid conditions including learning disability, depression, anxiety, and bipolar disorder.



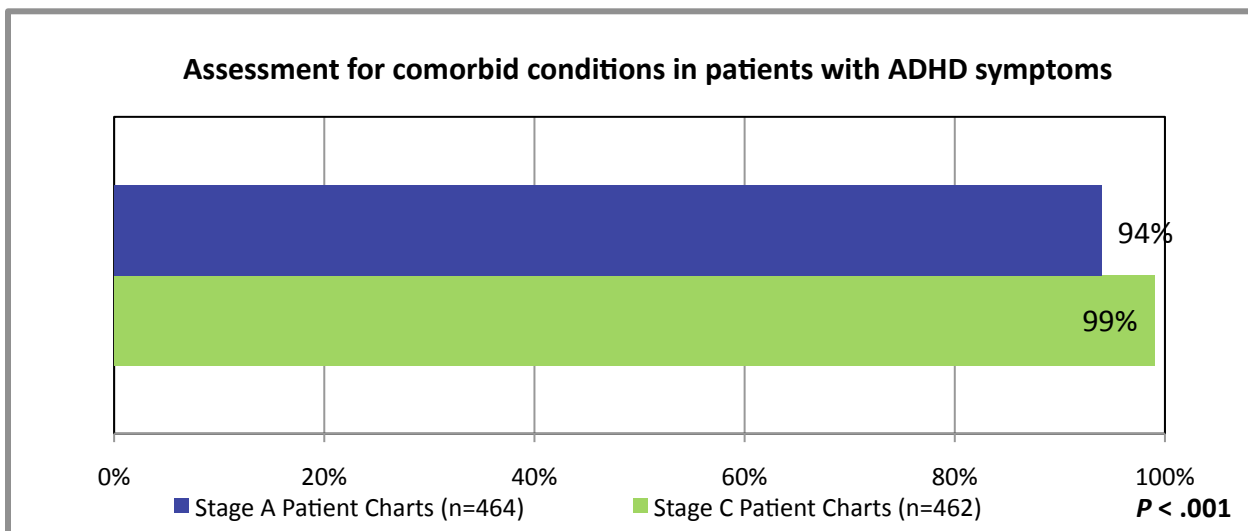




Q: Was a patient history obtained or confirmed that addressed all of the following elements: current signs and symptoms of ADHD, developmental/academic history, past medical and psychiatric history, medication use, substance use, family history?



Q: Was the patient assessed for significant impairments in social, academic, and occupational functioning?



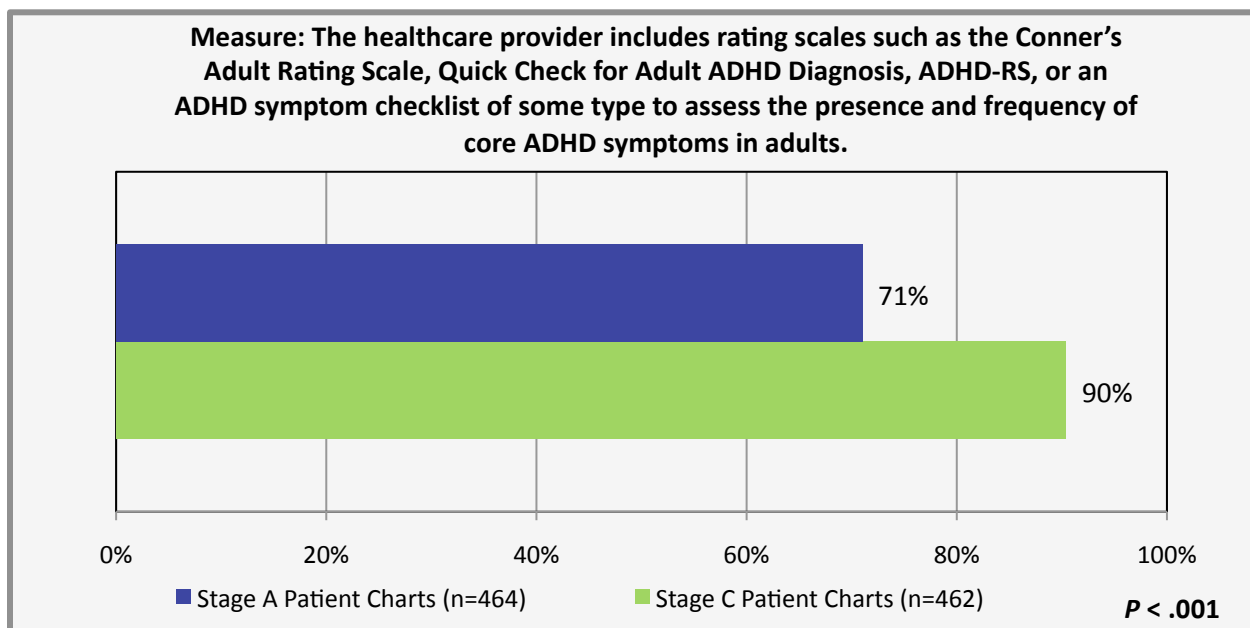
Q: Was the patient assessed or screened for common comorbid conditions including learning disability, depression, anxiety, and bipolar disorder?

## ADHD Rating Scales

**Measure:** The healthcare provider includes rating scales such as the Conner’s Adult Rating Scale, Quick Check for Adult ADHD Diagnosis, ADHD-RS, or an ADHD symptom checklist of some type to assess the presence and frequency of core ADHD symptoms in adults.

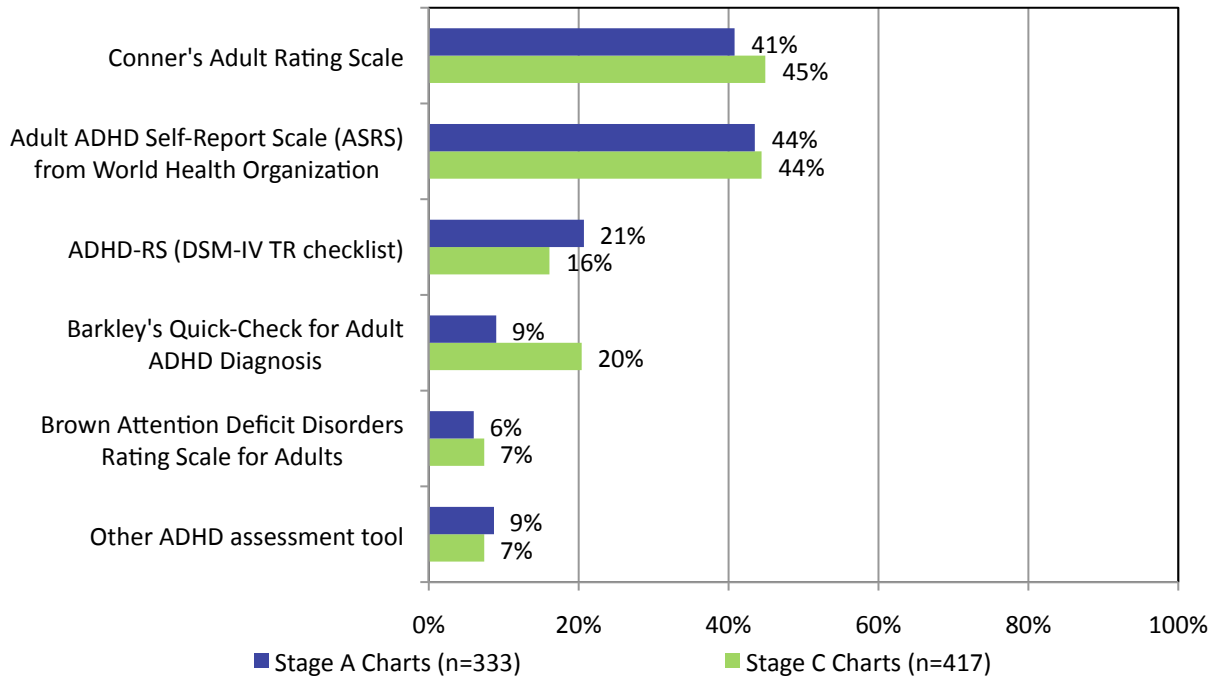
Summary: Healthcare providers completing the PI-CME program were significantly more likely to utilize rating scales in assessment patients with ADHD symptoms than they were prior to completing the program.

Healthcare providers were most likely to utilize the Connor’s Adult Rating Scale or the ADHD Adult Self-Report Scale. Two reasons patients were not being assessed with a rating scale was 1) the lack of access of healthcare providers to ADHD rating scales in their offices and 2) unfamiliarity with rating scales. As the PI-CME program addressed both of these issues by providing education as well as a toolkit containing rating scales, these barriers were significantly reduced, increasing the number of patients assessed with rating scales.



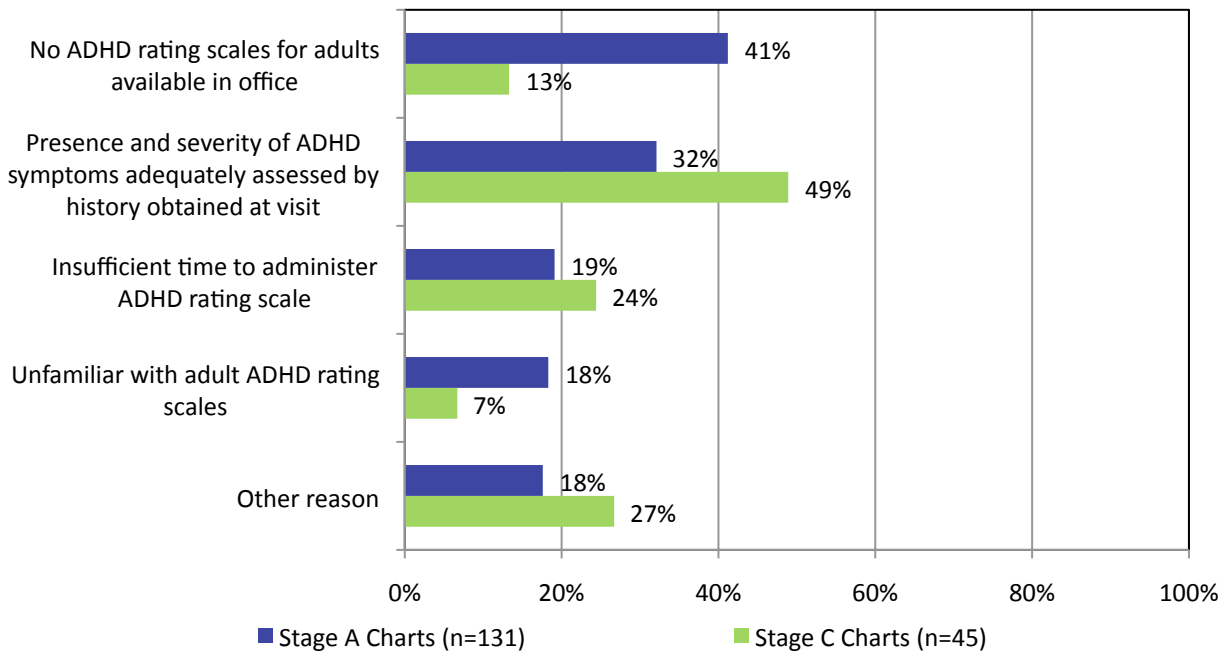
Q: Was a rating scale or symptom checklist used or reviewed to assess presence & severity of core ADHD symptoms?

### Type of rating scales used in initial assessment of ADHD symptoms



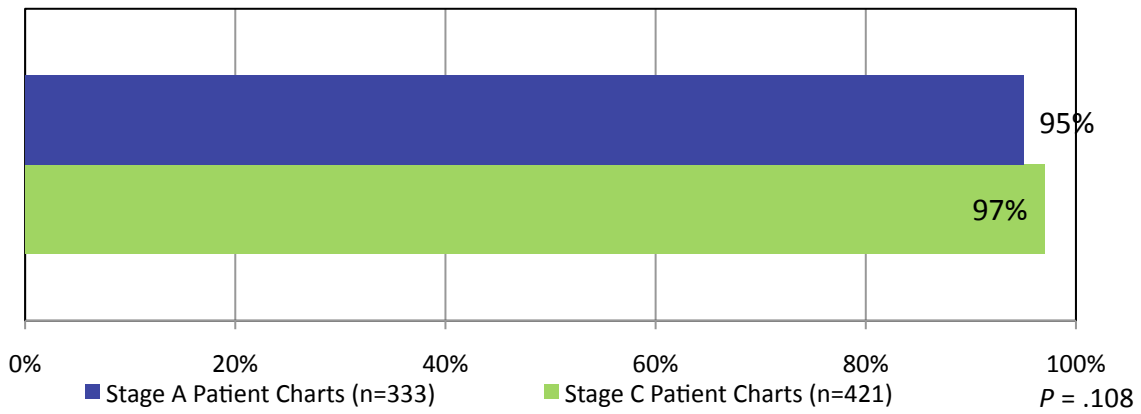
Q: If a rating scale was used, which rating scale was used?

### Rationale for not using a rating scale to assess ADHD symptoms



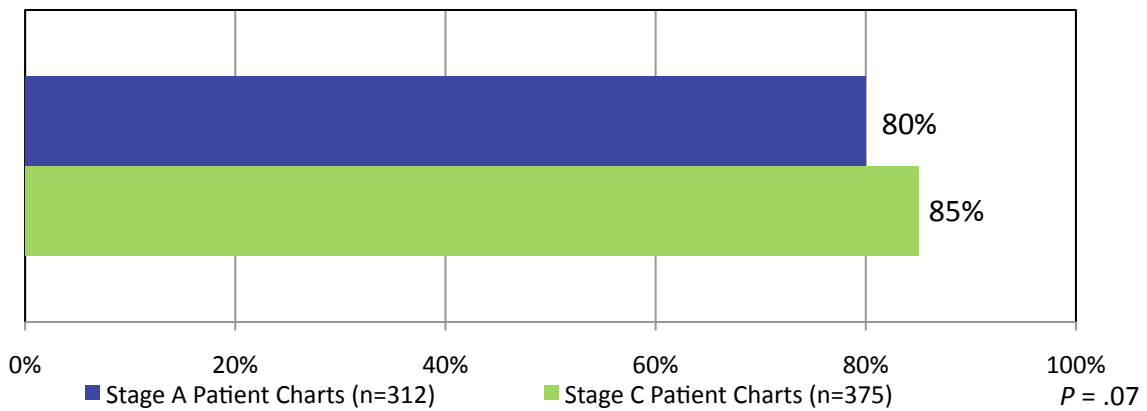
Q: Why was no rating scale used?

### Use of ADHD rating scales to help determine diagnosis or establish symptom baseline



Q: Was a rating scale used to help determine diagnosis and/or establish a symptom baseline?

### Use of ADHD rating scales to assess response to treatment

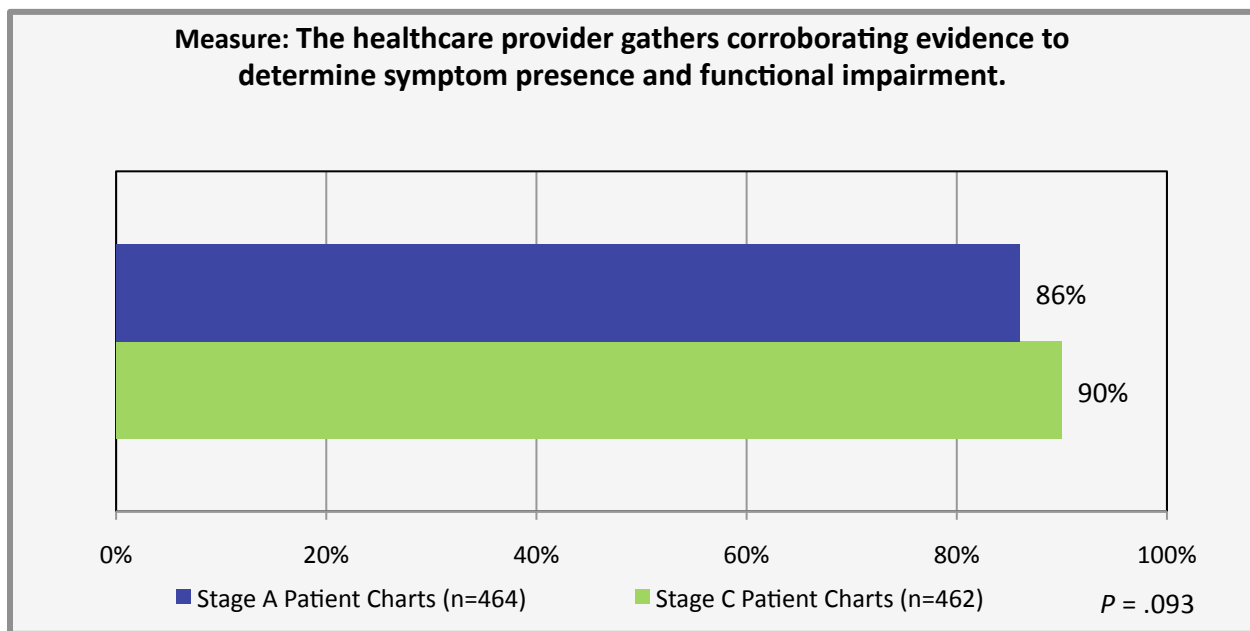


Q: Was a rating scale administered at least once after treatment started to assess response?

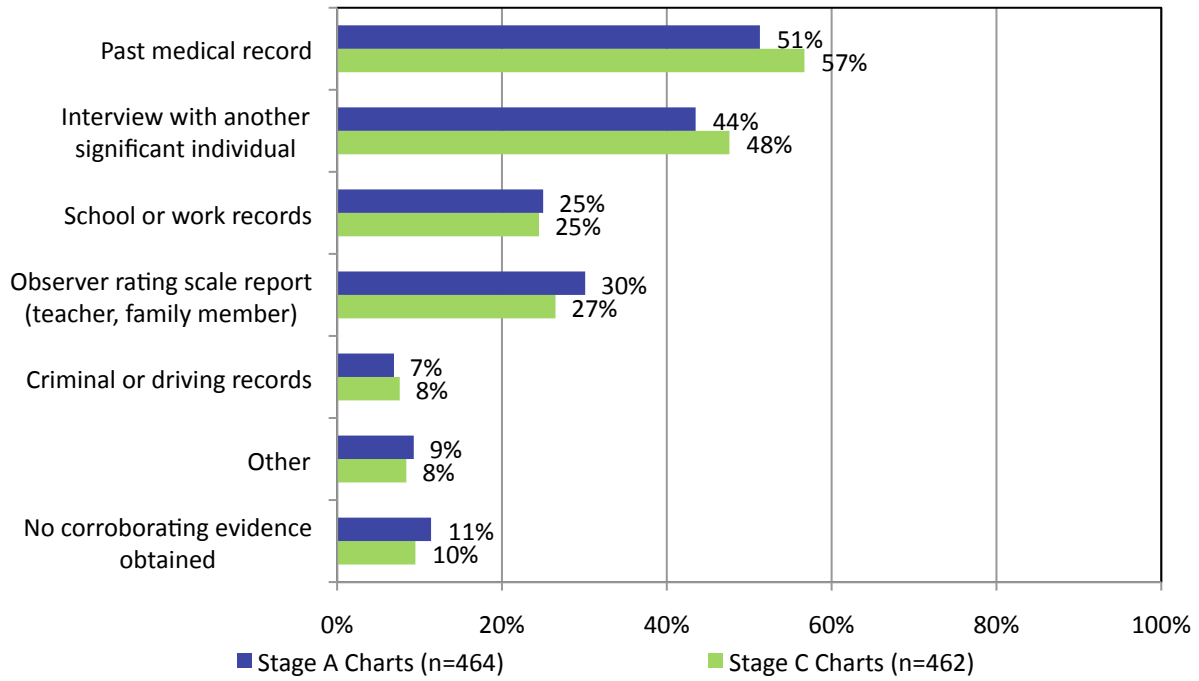
## Use of Corroborating Evidence

**Measure: The healthcare provider gathers corroborating evidence to determine symptom presence and functional impairment.**

Summary: The majority of healthcare providers were likely to gather corroborating evidence when diagnosing ADHD symptoms in adult patients. They were most likely to use past medical history and/or an interview with another individual significant to the patient. Healthcare providers are most likely to obtain past medical records and/or interview with another significant individual, while a third of healthcare providers would utilize an observer rating scale and a quarter would ask for school or work records.



### Corroborating evidence to characterize patient

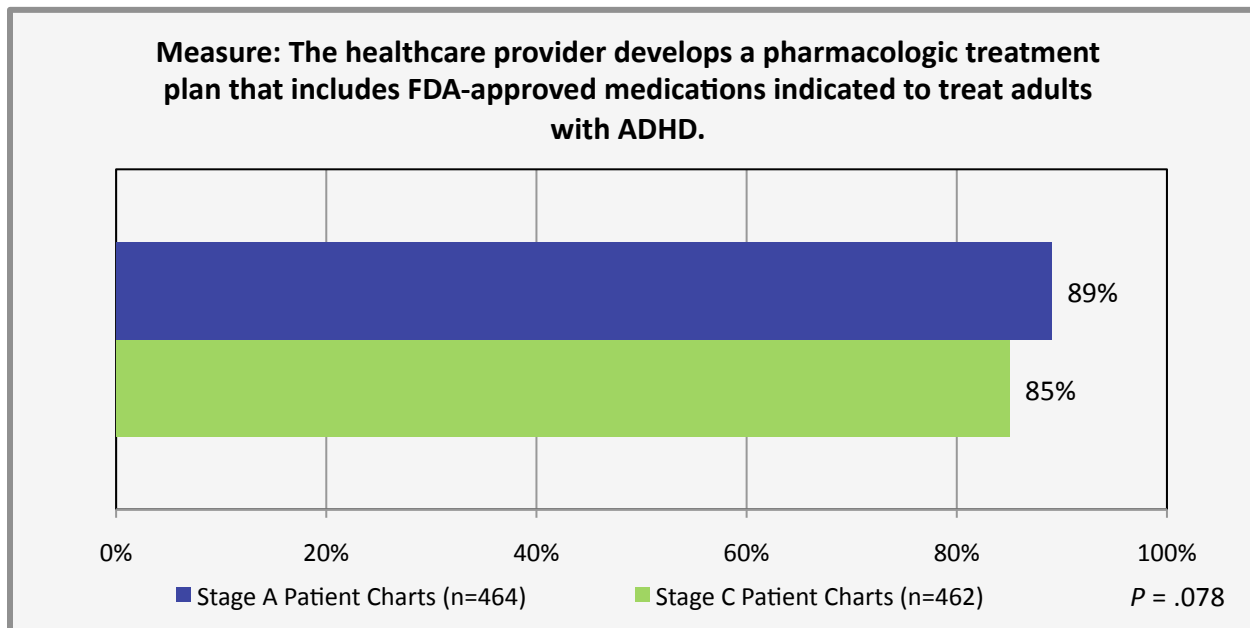


Q: During your assessment or record review, how was corroborating evidence obtained to help characterize this patient?

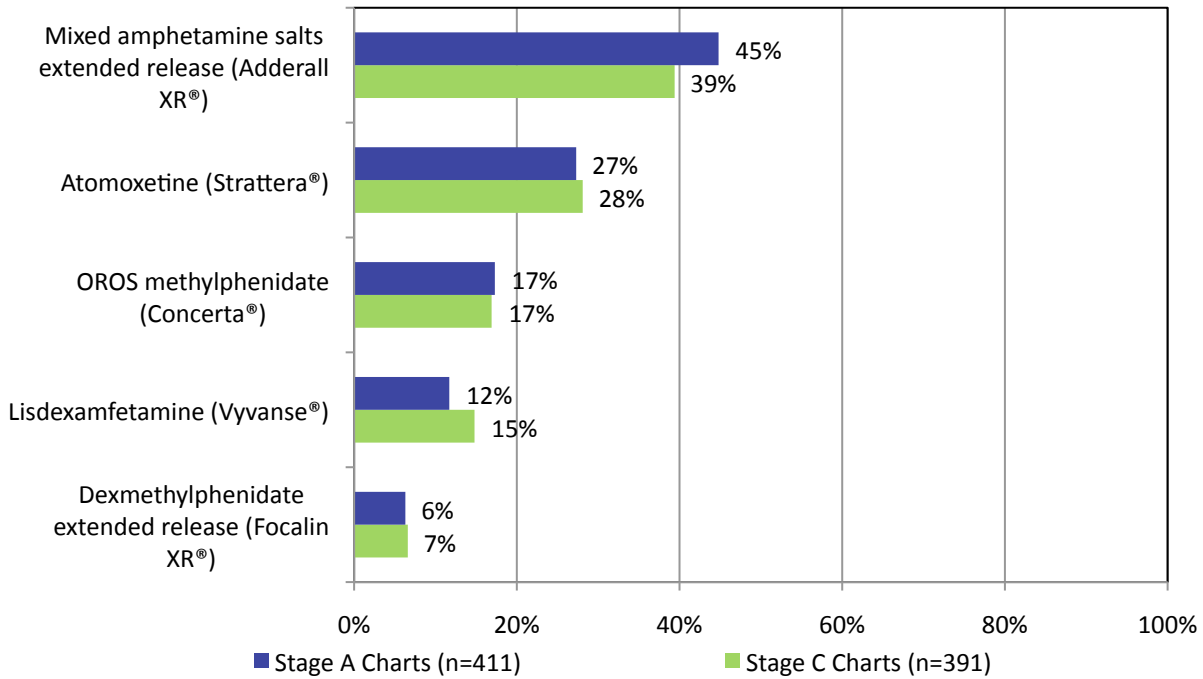
## Pharmacologic Treatment Plan: Adult Patients with ADHD

**Measure: The healthcare provider develops a pharmacologic treatment plan that includes FDA-approved medications indicated to treat adults with ADHD.**

Summary: The majority of adult patients with ADHD are receiving a pharmacologic treatment plan that includes an FDA-approved medication for ADHD. For those patients not on an FDA-approved medication for ADHD, the main reasons are related to the patient preference for alternative medication or no ADHD medication. Three-quarters of patients have been prescribed an ADHD medication within the past 12 months; it is fairly evenly split among those who are new to start ADHD medication, those continuing their medication, and those resuming medication after being off of medication.

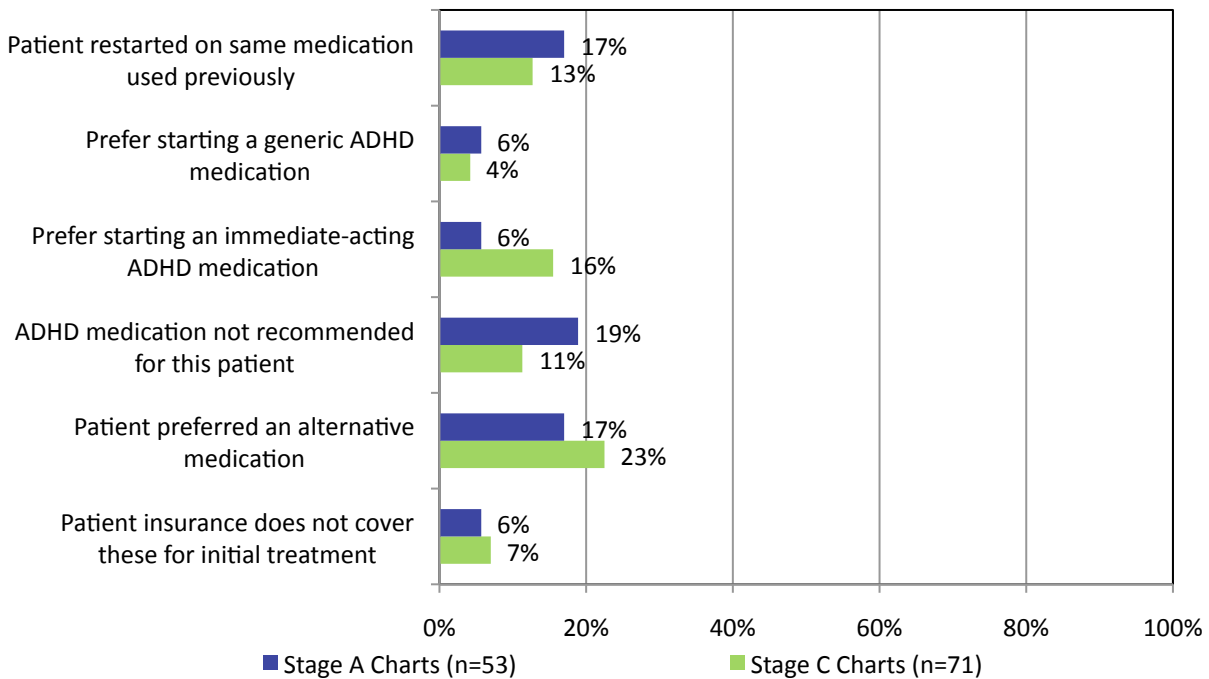


### FDA-approved medication recommended



Q: Indicate which FDA-approved medication was recommended?

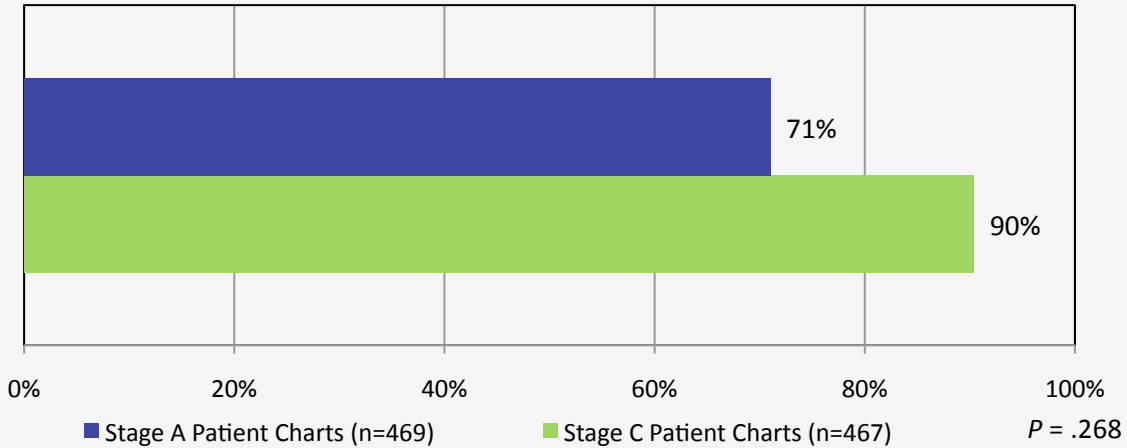
### Reason for not recommending an FDA-approved medication



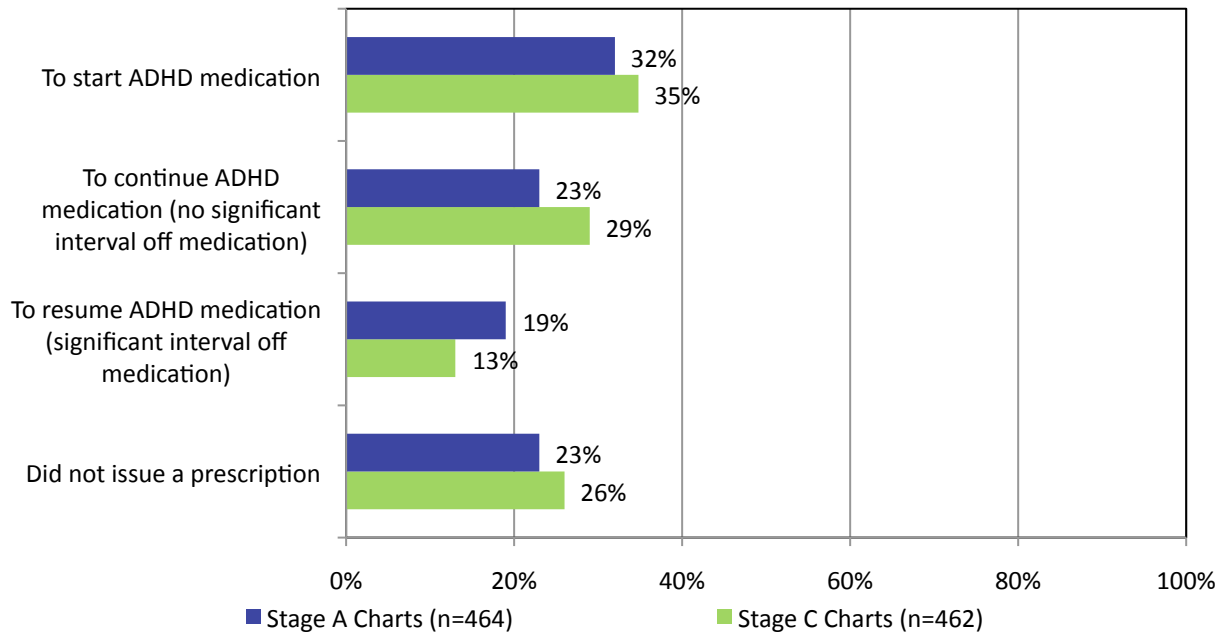
Q: Why was no FDA-approved medication suggested?



**Within the past 12 months, have you prescribed ADHD medication for this patient?**

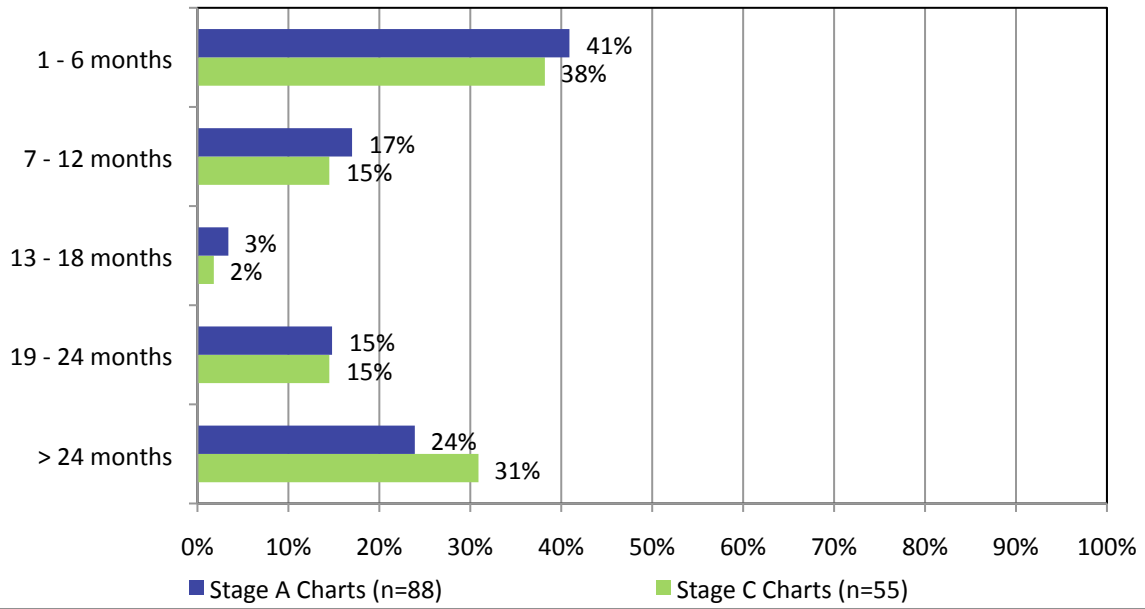


**Reason for issuing prescription**



Q: Why was this prescription issued?

**For those resuming medication, length of time patient was off medication**

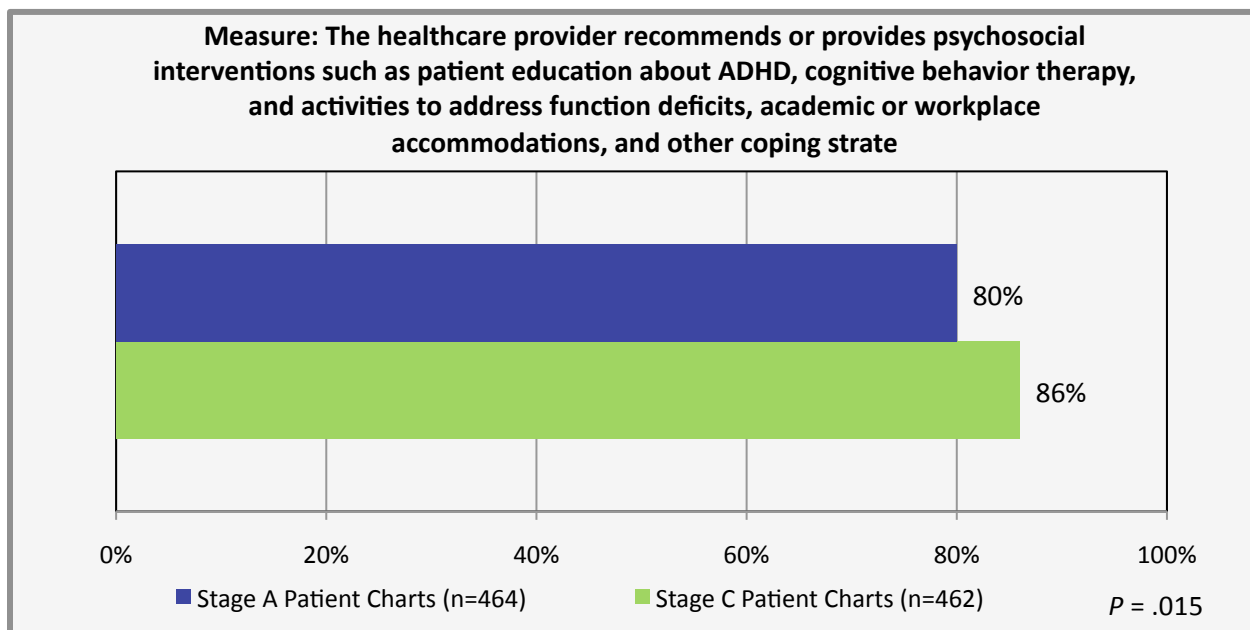


Q: How many months was the patient off ADHD medication?

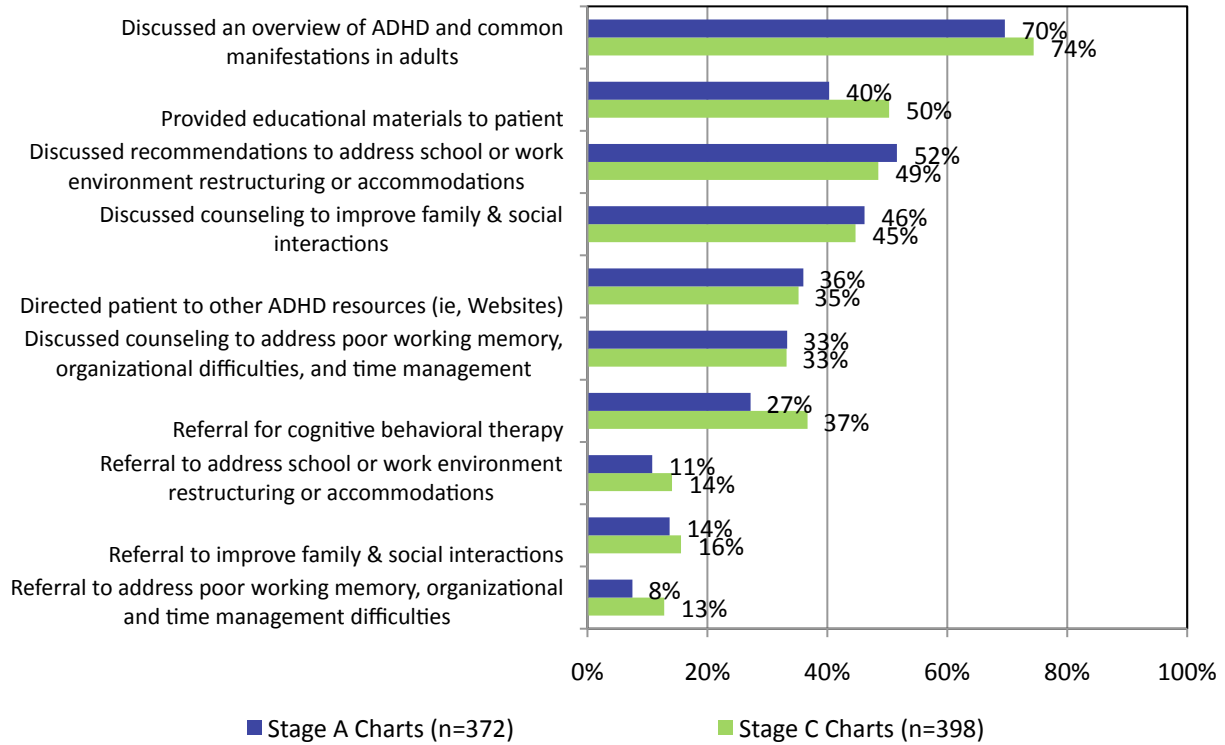
## Non-pharmacologic Treatment Plans for Adults With ADHD

**Measure: The healthcare provider recommends or provides psychosocial interventions such as patient education about ADHD, cognitive behavior therapy, and activities to address function deficits, academic or workplace accommodations, and other coping strategies.**

Summary: Patients were more likely to receive psychosocial interventions after healthcare providers completed the PI program. Healthcare providers most often took the time to discuss an overview of ADHD and review common manifestations in adults. Healthcare providers were increasingly likely to provide educational materials to patients and refer for cognitive behavior therapy following completion of the PI program. Of those healthcare providers not providing psychosocial interventions, over a quarter of patients were already receiving psychosocial interventions from another source, and another quarter of patients declined psychosocial interventions.

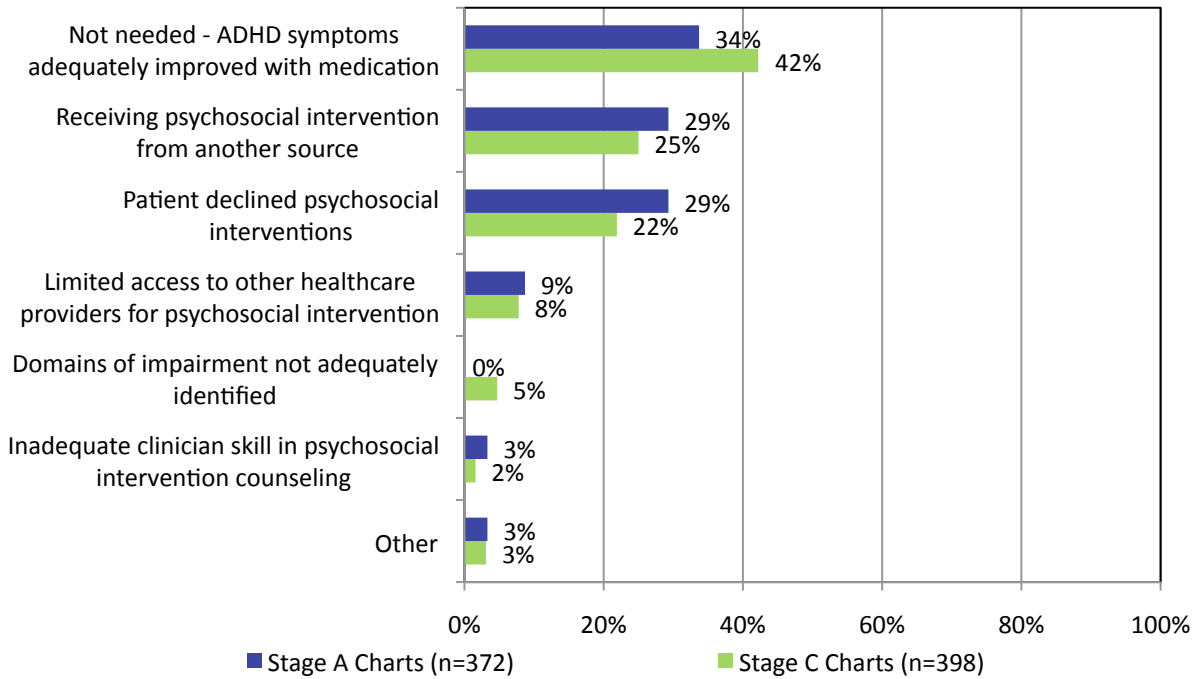


### Type of psychosocial intervention used for patients with ADHD



Q: If psychosocial interventions were used, indicate method used.

### Reason for not providing psychosocial interventions for patients with ADHD

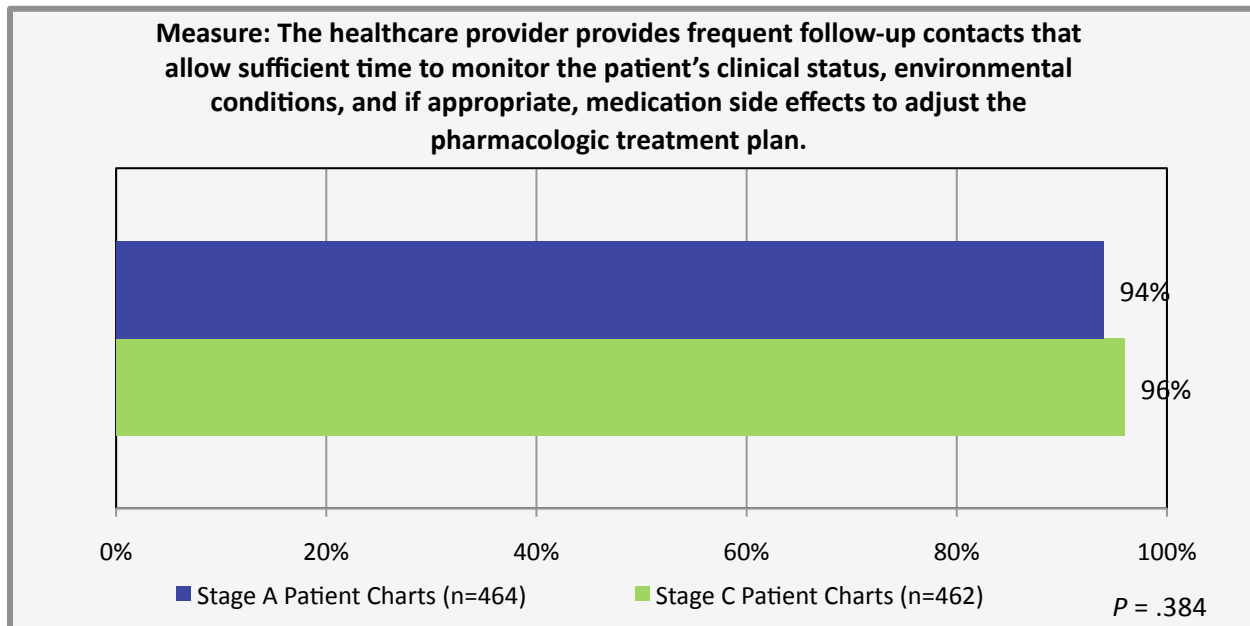


Q: Why were psychosocial interventions not provided?

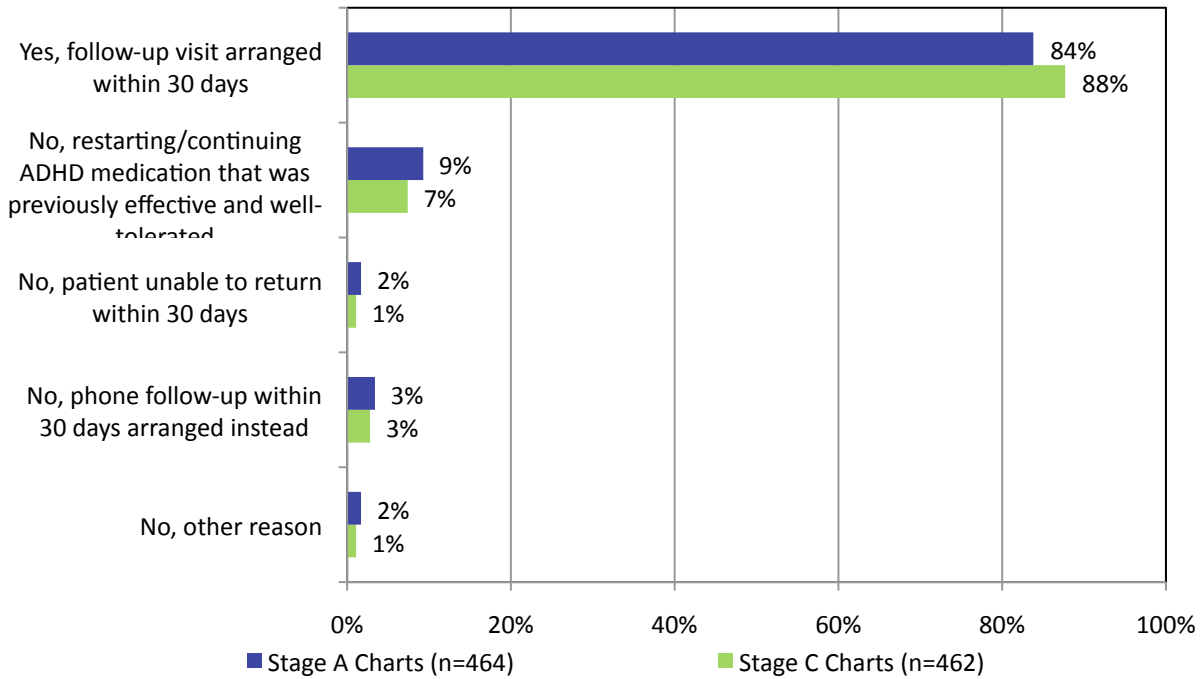
## Follow-up Contact for Adult Patients With ADHD

**Measure:** The healthcare provider provides frequent follow-up contacts that allow sufficient time to monitor the patient’s clinical status, environmental conditions, and if appropriate, medication side effects to adjust the pharmacologic treatment plan.

Summary: Patients are extremely likely to be scheduled for a follow-up office visit within 30 days of medication being initiated. Of those not being scheduled for an office visit, the majority were resuming medication that was previously tolerated well.



### Arranging follow-up visit within 30 days after initial therapy



Q: Was patient scheduled for follow-up visit within 30 days after initial therapy (pharmacologic or non-pharmacologic)?

## Summary of Findings

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The participants of the PI-CME program, *Adults with ADHD: Making Exam Room Decisions*, made improvements across multiple key performance measures including:

- Providing a comprehensive patient assessment for adult patients with symptoms of ADHD
- Utilizing ADHD rating scales in the initial assessment of adult patients with symptoms of ADHD
- Recommending psychosocial interventions as part of a comprehensive treatment plan for adults diagnosed with ADHD

The PI-CME program also reinforces additional key measures for participants including:

- The need for frequent follow-up after an ADHD treatment plan is established
- The use of corroborating evidence to determine the severity of ADHD symptoms when diagnosing an adult patient with ADHD
- The need for a comprehensive treatment plan inclusive of pharmacologic and non-pharmacologic interventions



## Appendix A: Patient Criteria for Chart Audit and Chart-audit Tool

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At both Stage A and Stage C, healthcare providers were required to submit 5 charts of patients meeting the following criteria:

- Age 18 years or older
- Diagnosed with ADHD
- An ADHD assessment performed to establish diagnosis OR resume/transition ADHD medical management of the patient OR have had a prior ADHD assessment done by another healthcare provider for patient transitioning medical care
  - For Stage A: Assessment must have occurred in the past 12 months
  - For Stage C: Assessment must have occurred since the start of the healthcare provider's participation in Stage B

01	Is the patient 18 years or older?	<b>Choose one:</b> <input type="radio"/> Yes <input type="radio"/> No
02	Has this patient been diagnosed with ADHD?	<b>Choose one:</b> <input type="radio"/> Yes <input type="radio"/> No
03	Have you performed an ADHD assessment on this patient?	<b>Choose one:</b> <input type="radio"/> Yes, performed initial assessment to establish ADHD diagnosis. <input type="radio"/> Yes, performed reassessment for patient resuming or transitioning ADHD medical management. <input type="radio"/> No, have not performed an ADHD assessment on this patient.
04	Was this ADHD assessment or review performed after 01/29/2011 (start of your Action Phase)?	<b>Choose one:</b> <input type="radio"/> Yes <input type="radio"/> No

01

What is the patient's age currently (Ex. 19, 25, 43, etc.)?

Answer:

Enter your answer here

02

Within the past 12 months, how many times has this patient been seen in your practice for ADHD?

Choose one:

- 1
- 2
- 3-4
- 5+

03

If resuming ADHD medication, interval off ADHD medications (specify months or years such as 2yrs 6mos or 18mos) Enter 0 if not resuming.

Answer:

Enter your answer here

04

Was a patient history obtained or confirmed that covered all of the following elements?:

- current signs and symptoms of ADHD
- developmental/academic history

Choose one:

- Yes
- No

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- past medical & psychiatric history
- medication use
- substance use
- family history

05

Was the patient assessed for significant impairments in social, academic and occupational functioning?

Choose one:

- Yes
- No

06

Was the patient assessed or screened for common comorbid conditions including learning disability, depression, anxiety and bipolar disorder?

Choose one:

- Yes
- No

07

Was a rating scale or symptom checklist used or reviewed to assess presence & severity of core ADHD symptoms?

Choose one:

- Yes
- No

08

During your assessment or record review, how was corroborating evidence obtained to help characterize this patient's ADHD symptoms and functional impairment? (check all that apply)

Choose:

- Interview with another significant individual
- Observer rating scale report(teacher, family member)
- School or work records
- Criminal or driving records
- Past medical record
- Other
- No corroborating evidence obtained

09

Within the past 12 months, have you prescribed ADHD medication for this patient?

Choose one:

- Yes
- No

10

Was an FDA-approved medication with an indication for adults with ADHD recommended as part of treatment plan (see list of FDA approved adult ADHD medications below)?

atomoxetine (Strattera®), mixed amphetamine salts extended release (Adderall XR®), dexamethylphenidate extended release (Focalin XR®), lisdexamfetamine (Vyvanse®), OROS methylphenidate (Concerta®)

Choose one:

- Yes
- No

11

Was patient scheduled for follow-up visit within 30 days after initiating therapy (pharmacological or non-pharmacological)?

Choose one:

- Yes, follow-up visit arranged within 30 days.
- No, phone follow-up within 30 days arranged instead.
- No, restarting/continuing ADHD medication that was previously effective and well-tolerated.
- No, patient unable to return within 30 days.
- No, there were no appointments available for early followup.
- No, other reason.

12

Were psychosocial interventions and/or education provided to address executive function deficits or functional impairments?

Choose one:

- Yes
- No

## Appendix B: Full Data Set for Patient Chart-audit Data

### Patient Age

	Pre					Post				
	n	Mean	Median	Mode	SD	n	Mean	Median	Mode	SD
	464	29	27	19	9	462	29	26	19	10

$P = .728$

### Within the past 12 months, how many times has the patient been seen in your practice for ADHD?

	Pre		Post	
	n	%	n	%
1	105	22.6%	112	24.2%
2	115	24.8%	149	32.3%
3 - 4	149	32.1%	128	27.7%
5+	95	20.5%	73	15.8%
Total Respondents	464	100.0%	462	100.0%

$P = .028$

### Was a patient history obtained or confirmed that covered all of the following elements: developmental/academic history, past medical & psychiatric history, medication use, substance use, and family history?

	Pre		Post	
	n	%	n	%
No	13	2.8%	2	0.4%
Yes	451	97.2%	460	99.6%
Total Respondents	464	100.0%	462	100.0%

$P = .004$

**Was the patient assessed for significant impairments in social, academic, and occupational functioning?**

	Pre		Post	
	n	%	n	%
No	20	4.3%	6	1.3%
Yes	444	95.7%	456	98.7%
Total Respondents	464	100.0%	462	100.0%

*P* = .006

**Was the patient assessed or screened for common comorbid conditions including learning disability, depression, anxiety, and bipolar disorder?**

	Pre		Post	
	n	%	n	%
No	28	6.0%	4	0.9%
Yes	436	94.0%	458	99.1%
Total Respondents	464	100.0%	462	100.0%

*P* < .001

**Was a rating scale or symptom checklist used or reviewed to assess presence & severity of core ADHD symptoms?**

	Pre		Post	
	n	%	n	%
No	131	28.2%	45	9.7%
Yes	333	71.8%	417	90.3%
Total Respondents	464	100.0%	462	100.0%

*P* < .001

**Which rating scale was used?**

	Pre		Post	
	n	%	n	%
Conner's Adult Rating Scale	136	40.8%	187	44.8%
Barkley's Quick-Check for Adult ADHD Diagnosis	30	9.0%	85	20.4%
Adult ADHD Self-Report Scale (ASRS) from World Health Organization	145	43.5%	185	44.4%
Brown Attention Deficit Disorders Rating Scale for Adults	20	6.0%	31	7.4%
ADHD-RS (DSM-IV TR checklist)	69	20.7%	67	16.1%
Other ADHD assessment tool	29	8.7%	31	7.4%
Total Respondents	333	100.0%	417	100.0%

*P* = .001

**Why was no rating scale used?**

	Pre		Post	
	n	%	n	%
No ADHD rating scales for adults available in office	54	41.2%	6	13.3%
Unfamiliar with adult ADHD rating scales	24	18.3%	3	6.7%
Insufficient time to administer ADHD rating scale	25	19.1%	11	24.4%
Presence and severity of ADHD symptoms adequately assessed by history obtained at visit	42	32.1%	22	48.9%
Other reason	23	17.6%	12	26.7%
Total Respondents	131	100.0%	45	100.0%

*P* < .001



**Was a rating scale used to help determine diagnosis and/or establish a symptom baseline?**

	Pre		Post	
	n	%	n	%
No	16	4.8%	11	2.6%
Yes	317	95.2%	406	97.4%
Total Respondents	333	100.0%	417	100.0%

*P* = .113

**If within the past 12 months an ADHD medication has been prescribed or an FDA-approved medication was recommended - Was a rating scale administered at least once after treatment started to assess response?**

	Pre		Post	
	n	%	n	%
No	63	20.2%	56	14.9%
Yes	249	79.8%	319	85.1%
Total Respondents	312	100.0%	375	100.0%

*P* = .07

**During your assessment or record review, how was corroborating evidence obtained to help characterize this patient?**

	Pre		Post	
	n	%	n	%
Interview with another significant individual	202	43.5%	220	47.6%
Observer rating scale report (teacher, family member)	123	26.5%	139	30.1%
School or work records	116	25.0%	113	24.5%
Criminal or driving records	32	6.9%	35	7.6%
Past medical record	238	51.3%	262	56.7%
Other	43	9.3%	39	8.4%
No corroborating evidence obtained	53	11.4%	44	9.5%
Total Respondents	464	100.0%	462	100.0%

*P* = .425

**Within the past 12 months, have you prescribed ADHD medication for this patient?**

	Pre		Post	
	n	%	n	%
No	121	26.1%	106	22.9%
Yes	343	73.9%	356	77.1%
Total Respondents	464	100.0%	462	100.0%

$P = .268$

**Why was this prescription issued?**

	Pre		Post	
	n	%	n	%
No prescription issued	119	25.6%	106	22.9%
To resume ADHD medication (significant interval off medication)	90	19.4%	60	13.0%
To continue ADHD medication (no significant interval off medication)	107	23.1%	135	29.2%
To start ADHD medication	148	31.9%	161	34.8%
Total Respondents	464	100.0%	462	100.0%

$P = .015$

**How many months was the patient off ADHD medication?**

	Pre		Post	
	n	%	n	%
1 - 6 months	36	40.9%	17	30.9%
7 - 12 months	15	17.0%	8	14.5%
13 - 18 months	3	3.4%	1	1.8%
19 - 24 months	13	14.8%	8	14.5%
> 24 months	21	23.9%	21	38.2%
Total Respondents	88	100.0%	55	100.0%

Pre Mean = 31.2 months, Post Mean = 36.1 months,  $P = .617$

**Was a FDA-approved medication with an indication for adults with ADHD recommended as part of treatment plan?**

	Pre		Post	
	n	%	n	%
No	53	11.4%	71	15.4%
Yes	411	88.6%	391	84.6%
Total Respondents	464	100.0%	462	100.0%

*P* = .078

**Indicate which FDA-approved medication was recommended.**

	Pre		Post	
	n	%	n	%
Atomoxetine (Strattera®)	112	27.3%	110	28.1%
Mixed amphetamine salts extended release (Adderall XR®)	184	44.8%	154	39.4%
Dexmethylphenidate extended release (Focalin XR®)	26	6.3%	26	6.6%
Lisdexamfetamine (Vyvanse®)	48	11.7%	58	14.8%
OROS methylphenidate (Concerta®)	71	17.3%	66	16.9%
Total Respondents	411	100.0%	391	100.0%

*P* = .513

**Why was no FDA-approved medication suggested?**

	Pre		Post	
	n	%	n	%
Patient restarted on same medication used previously	9	17.0%	9	12.7%
Prefer starting an immediate-acting ADHD medication	3	5.7%	11	15.5%
Prefer starting a generic ADHD medication	3	5.7%	3	4.2%
Patient insurance does not cover these for initial treatment	3	5.7%	5	7.0%
Patient preferred an alternative medication	9	17.0%	16	22.5%
ADHD medication not recommended for this patient	10	18.9%	8	11.3%
Patient did not want ADHD medication	15	28.3%	21	29.6%
Other	8	15.1%	15	21.1%
Total Respondents	53	100.0%	71	100.0%

P = .607

*\*More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.*

**Was patient scheduled for follow-up visit within 30 days after initial therapy (pharmacologic or non-pharmacologic)?**

	Pre		Post	
	n	%	n	%
Yes, follow-up visit arranged within 30 days	389	83.8%	405	87.7%
No, restarting/continuing ADHD medication that was previously effective and well-tolerated	43	9.3%	34	7.4%
No, phone follow-up within 30 days arranged instead	16	3.4%	13	2.8%
No, patient unable to return within 30 days	8	1.7%	5	1.1%
No, other reason	8	1.7%	5	1.1%
Total Respondents	464	100.0%	462	100.0%

P = .547

**Were psychosocial interventions and/or education provided to address executive function deficits or functional impairments?**

	Pre		Post	
	n	%	n	%
No	92	19.8%	64	13.9%
Yes	372	80.2%	398	86.1%
Total Respondents	464	100.0%	462	100.0%

*P* = .015

**Indicate method used.**

	Pre		Post	
	n	%	n	%
You discussed an overview of ADHD and common manifestations in adults	259	69.6%	296	74.4%
You discussed recommendations to address school or work environment restructuring or accommodations	192	51.6%	193	48.5%
You discussed counseling to improve family & social interactions, anger management	172	46.2%	178	44.7%
You discussed counseling to address poor working memory, organizational difficulties, and time management	124	33.3%	132	33.2%
Referral for cognitive behavioral therapy	101	27.2%	146	36.7%
Referrals to address school or work environment restructuring or accommodations	40	10.8%	56	14.1%
Referral to improve family & social interactions, anger management	51	13.7%	62	15.6%
Referral to address poor working memory, organizational difficulties, and time management	28	7.5%	51	12.8%
Provided educational materials to patient	150	40.3%	200	50.3%
Directed patient to other ADHD resources (Websites, patient advocacy organizations)	134	36.0%	140	35.2%
Total Respondents	372	100.0%	398	100.0%

*P* = .002

**Why psychosocial interventions were not provided?**

	Pre		Post	
	n	%	n	%
Receiving psychosocial intervention from another source	27	29.3%	16	25.0%
Patient declined psychosocial interventions	27	29.3%	14	21.9%
Not needed - ADHD symptoms adequately improved with medication	31	33.7%	27	42.2%
Limited access to other healthcare provider for psychosocial intervention	8	8.7%	5	7.8%
Inadequate clinician skill in psychosocial intervention counseling	3	3.3%	1	1.6%
Domains of impairment not adequately identified	0	0.0%	3	4.7%
Other	3	3.3%	2	3.1%
Total Respondents	92	100.0%	64	100.0%

*P = .38*

*\*More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.*

## Appendix C: References

<sup>1</sup> AMA Physician's Recognition Award Booklet 2010 Revision.