UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

JAN - 8 2024

The Honorable Jack Reed
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The Department's response to Senate Report 114–49, pages 157-158, accompanying S. 1376, the National Defense Authorization Act for Fiscal Year (FY) 2016, "Annual Report on Autism Care Demonstration," is enclosed. Unfortunately, due to the nature and complexity of this issue, and required coordination with Departmental stakeholders, our response took longer than expected.

The Autism Care Demonstration (ACD) offers Applied Behavior Analysis (ABA) services for all TRICARE-eligible beneficiaries diagnosed with autism spectrum disorder. ABA services are not limited by the beneficiary's age, dollar amount spent, or number of services provided. The ACD began July, 25, 2014, and was originally set to expire on December 31, 2018. The Department extended the demonstration until December 31, 2028, to determine the appropriate characterization of ABA services as a medical treatment or other modality under the TRICARE program's coverage requirements.

ACD participation increased 44 percent from 11,461 beneficiaries in FY 2015 to 16,467 beneficiaries in FY 2021. Program costs increased 148 percent from $161.5 million (M) in FY 2015 to $430.3M in FY 2021. The annual report for FY 2021 provides information on the current state of the ACD, including enrollment and costs, and lessons learned. In March 2021, the Defense Health Agency published policy updates that aim to improve the ACD's beneficiary services and oversight and accountability of the program. Due to the phased implementation plan of the 2021 ACD policy update, this report does not yet have sufficient data to report on any findings or lessons learned.

Thank you for your continued strong support for the health and well-being of our Service members, civilian workforce, and their families. I am sending a similar letter to the House Armed Services Committee.

Sincerely,

[redacted]

Ashish S. Vazirani
Acting

Enclosure:
As stated

cc:
The Honorable Roger F. Wicker
Ranking Member

[redacted]

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND READINESS

JAN - 8 2024

The Honorable Mike D. Rogers
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to Senate Report 114–49, pages 157-158, accompanying S. 1376, the National Defense Authorization Act for Fiscal Year (FY) 2016, "Annual Report on Autism Care Demonstration," is enclosed. Unfortunately, due to the nature and complexity of this issue, and required coordination with Departmental stakeholders, our response took longer than expected.

The Autism Care Demonstration (ACD) offers Applied Behavior Analysis (ABA) services for all TRICARE-eligible beneficiaries diagnosed with autism spectrum disorder. ABA services are not limited by the beneficiary's age, dollar amount spent, or number of services provided. The ACD began July, 25, 2014, and was originally set to expire on December 31, 2018. The Department extended the demonstration until December 31, 2028, to determine the appropriate characterization of ABA services as a medical treatment or other modality under the TRICARE program's coverage requirements.

ACD participation increased 44 percent from 11,461 beneficiaries in FY 2015 to 16,467 beneficiaries in FY 2021. Program costs increased 148 percent from $161.5 million (M) in FY 2015 to $430.3M in FY 2021. The annual report for FY 2021 provides information on the current state of the ACD, including enrollment and costs, and lessons learned. In March 2021, the Defense Health Agency published policy updates that aim to improve the ACD's beneficiary services and oversight and accountability of the program. Due to the phased implementation plan of the 2021 ACD policy update, this report does not yet have sufficient data to report on any findings or lessons learned.

Thank you for your continued strong support for the health and well-being of our Service members, civilian workforce, and their families. I am sending a similar letter to the Senate Armed Services Committee.

Sincerely,

[redacted]

Ashish S. Vazirani
Acting

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

[redacted]

Report to the Committees on Armed Services of the Senate and the House of Representatives

Comprehensive Autism Care Demonstration Annual Report

January 2024

The estimated cost of this report or study for the Department of Defense is approximately $20,000 in Fiscal Year 2023. This includes $0 in expenses and $20,000 in DoD labor.
Generated on 2023Jul20 RefID: 6-88E681F

Table of Contents

List of Tables

INTRODUCTION

This report is in response to Senate Report 114–49, pages 157-158, accompanying S. 1376, the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2016, which requests a report to the Committees on Armed Services of the Senate and the House of Representatives on the results of the Comprehensive Autism Care Demonstration (ACD). This report is based on FY 2021 claims data and is the eighth of these annual reports.

> The . . . annual report should include a discussion of the evidence regarding clinical improvement of children with [Autism Spectrum Disorder (ASD)] receiving [Applied Behavior Analysis (ABA)] therapy and a description of lessons learned to improve administration of the demonstration program. In the report, the Department should also identify any new legislative authorities required to improve the provision of autism services to beneficiaries with ASD.

BACKGROUND

TRICARE covers multiple services for beneficiaries with ASD. ABA services are covered under the ACD, but other services under the TRICARE benefit include, but are not limited to: speech and language pathology (SLP); occupational therapy (OT); physical therapy (PT); medication management; psychological testing; and psychotherapy. ABA services authorized under the ACD that address the core symptoms of ASD are not limited by the beneficiary's age, dollar amount spent, number of years of services received, or number of sessions provided; however, ABA services must be driven by clinical necessity. Non-clinical ABA services, or ABA services not targeting the core symptoms of ASD, are not authorized under the ACD. All ABA services continue to be provided through the private sector care system.

The ACD began July 25, 2014, and consolidated three previous programs.[1] The goal of the ACD is to strike a balance between maximizing access to care while ensuring the highest level of quality and appropriateness of services for beneficiaries. The ACD ensures consistent ABA service coverage for all TRICARE-eligible beneficiaries, including active duty family members (ADFMs) and non-active duty family members (NADFMs) diagnosed with ASD. The ACD was originally set to expire on December 31, 2018. The Department initially extended the demonstration to December 31, 2023, via a Federal Register Notice[2] that was published on December 11, 2017, and it was extended again to December 31, 2028, via a Federal Register Notice published August 4, 2022. The Department is obtaining additional information about which services TRICARE beneficiaries are receiving under the ACD and how to target services providing the most benefit. The Department is collecting more comprehensive outcomes data to gain greater insight and understanding of the diagnosis of ASD in the TRICARE population.

---

[1] Notice. "Comprehensive Autism Care Demonstration." *Federal Register* 79, no. 115 (June 16, 2014) 34291-34296. www.govinfo.gov/content/pkg/FR-2014-06-16/pdf/2014-14023.pdf.

[2] Notice. "Extension of the Comprehensive Autism Care Demonstration for TRICARE Eligible Beneficiaries Diagnosed With Autism Spectrum Disorder." *Federal Register* 82, no. 236 (December 11, 2017) 58186-58187. www.govinfo.gov/content/pkg/FR-2017-12-11/pdf/2017-26567.pdf.

DESCRIPTION OF THE ACD

Through this reporting period, the ACD offers only ABA services for all TRICARE-eligible beneficiaries diagnosed with ASD by an approved provider. ABA services under the ACD are authorized for the purpose of ameliorating the core symptoms of ASD (deficits in social communication and restrictive, repetitive behaviors). Under the ACD, a Board Certified Behavior Analyst (BCBA), BCBA-Doctorate, or other TRICARE-authorized provider who practices within the scope of his or her State licensure or State certification, referred to as an "authorized ABA supervisor," plans, delivers, and supervises an ABA program. The authorized ABA supervisor can deliver ABA services under either the sole provider model or tiered-delivery model.

The TRICARE Operations Manual (TOM) Chapter 18, Section 4, "Department of Defense (DoD) Comprehensive Autism Care Demonstration (ACD)," provides guidance to all TRICARE contractors on how to execute the benefit under the demonstration authority. The TOM describes: beneficiary eligibility, referral, and authorization requirements; provider eligibility requirements; outcome measure requirements; covered services and reimbursement rates; documentation requirements; exclusions; and contractor responsibilities.

The Defense Health Agency (DHA) published a comprehensive revision to the demonstration on March 23, 2021. The revision focuses on providing enhanced beneficiary and family support, incorporating all appropriate services and resources into a comprehensive plan, improving outcomes, encouraging parental involvement, and improving utilization management controls. This update also expanded coverage of certain Adaptive Behavior Services for the delivery of ABA services to TRICARE-eligible beneficiaries diagnosed with ASD. These revisions focus on improving the quality of, and access to, care and services, and management and accountability of the TRICARE contractors and the ABA providers. First year findings regarding the impact of these revisions are discussed below.

UTILIZATION TRENDS

The following information was generated using TRICARE private sector care claims data from the last eight FYs (FY 2015 – FY 2022) for which full year data is available for the ACD. All claims data examined in this report was extracted from the Military Health System Data Repository (MDR) on March 29, 2023, and our results are based upon data entered into the MDR by that date. Updated historical data reflects additional claims filed following the data abstraction point. The following tables report data from FY 2019 – FY 2022. Historical data for previous years are available in previous annual reports.

TRICARE ACD Program Participants and Expenditures Per FY

At the end of FY 2022, there were 16,156 beneficiaries with a diagnosis of ASD participating in the ACD: 11,980 ADFMs and 4,176 NADFMs (Table 1). This number reflects a 41 percent increase in total participants from the FY 2015 level (11,461): a 31 percent increase for ADFMs (9,178) and a 83 percent increase for NADFMs (2,283). Each FY number does not represent cumulative participation. Rather, each FY represents the total number of unique beneficiaries who had a claim filed during that year. For example, of the 16,156 participating

beneficiaries in FY 2022, 74 percent (12,011) had a claim filed in FY 2021, meaning that 26 percent of the FY 2022 enrollment were new beneficiaries. This finding is consistent with new participation from FY 2020 to FY 2021. As noted in each quarterly report, while several hundred referrals are submitted each month, many beneficiaries also discontinue services throughout the year.

Total Government costs for the ACD increased 166 percent from FY 2015 to FY 2021 ($161.5 million (M) in FY 2015 and $430.3M in FY 2021) and then decreased by 15 percent in FY 2022 from FY 2021 (Table 1). The average cost per participant has increased a total of 85 percent from FY 2015 to FY 2021. The average cost per ACD participant (Table 1) increased from $14,091.00 in FY 2015 to $27,256.00 in FY 2021, but then decreased to $23,839 in FY 2022.

Table 1 – TRICARE ADFM/NADFM ACD Program Participants and Expenditures per FY

Year	Number of Participants	% Growth in Participants from Prior FY	Dollars in Millions	% Growth in Dollars from Prior FY	Dollars per Participant	% Growth in Dollars from Prior FY
ADFM Participants						
FY 2019	11,964	-	$289.00	-	$24,154	-
FY 2020	12,147	2%	$306.70	6%	$25,245	5%
FY 2021	12,408	2%	$346.90	13%	$27,955	11%
FY 2022	11,980	-3%	$294.00	-15%	$24,543	-12%
NADFM Participants						
FY 2019	4,037	-	$87.10	-	$21,584	-
FY 2020	4,165	3%	$92.80	6%	$22,277	3%
FY 2021	4,269	2%	$107.70	16%	$25,223	13%
FY 2022	4,176	-2%	$91.10	-15%	$21,819	-13%
Total Participants						
FY 2019	16,001	-	$376.10	-	$23,505	-
FY 2020	16,312	2%	$399.40	6%	$24,480	4%
FY 2021	16,677	1%	$454.40	8%	$26,131	7%
FY 2022	16,156	-3%	$385.10	-15%	$23,839	-13%
Source: MDR Data as of March 29, 2023						

Annual Expenditure Ranges in FY 2021

In the past, there was interest in the percentage of ACD participants using ABA services who were exceeding the historical $36,000 FY cap on expenditures. While the ACD no longer has annual expenditure limits, the $36,000 cap can serve as a historical benchmark to evaluate the distribution of annual expenditures by ACD program beneficiaries.

In FY 2022, 22 percent of ACD users (3,619 of 16,156) had expenditures exceeding $36,000, including 23 percent of ADFMs (2,790 of 11,980 users) and 20 percent of NADFMs (829 of 4,176 users) (see Table 2). While the number of beneficiaries exceeding the $36,000 benchmark decreased from FY 2021, these 22 percent of ACD users accounts for 61 percent of total ACD expenditures.

Table 2 – Number of ACD Participants by Annual Expenditure Ranges in FY 2022

Beneficiary Category	<$30K	$30-34.99K	$35-35.99K	$36K Exactly	$36.01-$99.99K	$100K+	Total
ADFM	8,478	604	108	0	2,508	282	11,980
NADFM	3,163	155	29	0	732	97	4,176
Total	11,641	759	137	0	3,240	379	16,156
Source: MDR Data as of March 29, 2023							

Age Distribution of ACD Program Users for FY 2022

The distribution by beneficiary age and category (ADFMs and NADFMs) using TRICARE ACD services during FY 2022 is generally consistent with previous years for beneficiary participation. Across both beneficiary categories, 98.7 percent of ACD beneficiaries are younger than age 21 and 87.1 percent are age 13 and younger; 92.3 percent of ADFMs and 72.4 percent of NADFMs are age 13 or younger. The median participant age is 7 years, the average age is 8.0 years, and the most common age (mode) of participating beneficiaries is 5 years. Roughly 4 out of 5 beneficiaries diagnosed with ASD participating in the ACD are male. ADFM beneficiaries tend to be younger than NADFMs, with a median age of 6 years (mean of 7.2) versus 10 years (mean of 10.4) for NADFMs.

Monthly Utilization Trends of ABA Services for FY 2022

The FY 2022 utilization review examined the percent of beneficiary users with one or more months of a break in the receipt of one-on-one ABA services (Current Procedural Terminology (CPT) code 97153). For the purpose of this review, a break in service is defined as no receipt of ABA services for one or more months during the entire FY. For example, if a beneficiary receives services from October through July, does not receive services in August, and then continues receiving services again in September, the beneficiary would be defined as having a break in the provision of ABA services.

Of the 16,156 ACD users during FY 2022, 66 percent (10,629) did not have a monthly ABA service interruption, and 34 percent (5,527) had an ABA service interruption of one or more months. A total of 1,041 beneficiaries (6 percent) had only one month of 97153 services, and 3,590 (22 percent) had 12 continuous months of one-on one (CPT Code 97153) services. There were 1,681 beneficiaries (10 percent) who had no 97153 services (but they had other services such as CPT Code 97151 – Behavior Identification Assessment).

Of the 34 percent of ACD users who had a break in ABA services, the most frequent months off were May-October with September being the month with the largest number of beneficiaries with no ABA services, following by August, then July, then June, then May, then October. When examining the top 20 beneficiary groups of those with an interruption in ABA

services, on average patients received 8.7 months of one-on-one services and had 3.3 months of an interruption of one-on-one services.

Utilization of Family Treatment Guidance Services under the ACD

Effective August 1, 2021, the ACD policy requires a minimum amount of parent engagement for all participating beneficiaries (one engagement per month over the 6-month authorization period). As existing authorization periods rolled over into FY 2022, it was anticipated that there would be a number of authorizations that would not meet the requirement as they were approved prior to the effective date for the new FY review period. Therefore, it is not anticipated that there will be 100 percent compliance for this requirement in this review period.

A total of 13,332 of 16,156 ACD users (83 percent) had parents or guardians who used family treatment guidance services (CPT code 97156) during FY 2022 and 27 percent had no claims filed for family treatment guidance services. The use rate was slightly higher for ADFMs at 83 percent (9,957 of 11,980 users) versus 81 percent for NADFMs (3,375 of 4,176 users). Average family treatment guidance services use rates did not vary substantially across age categories but nonetheless were the lowest for parents or guardians of children aged 3 and younger (72 percent), increased to the highest level at age 5 (85 percent), and then declined to 3 percent for children ages 10-12. Family treatment guidance services represented 3.9 percent of total ACD expenditures.

Additionally, observations in claims data found that on average, 40 percent of families received at least one session of family treatment guidance per month when any other ABA services was provided. Of those families who engaged in family treatment guidance, the average total annual hours of family treatment guidance utilized per beneficiary was 8.1 hours.

Expenditures for Additional Services Utilized by ACD Users

In addition to the $385.1M in FY 2022 expenditures for ABA services, beneficiaries diagnosed with ASD participating in the demonstration also utilized relatively large amounts of TRICARE medical services for PT, SLP, and OT in both the private sector care and direct care systems. Further, beneficiaries diagnosed with ASD in the ACD also used the retail pharmacy, TRICARE Mail Order Pharmacy, and direct care pharmacy for prescription medications to treat behaviors affecting the symptoms of ASD, Attention Deficit Hyperactivity Disorder, and related medical and mental health conditions. Of the 16,156 TRICARE beneficiaries who participated in the ACD during FY 2022, 56 percent also utilized $51.8M in PT, SLP, and OT services (private sector care paid amounts and direct care full cost amounts) and 66 percent used $16.9M in prescription medications.

Table 3 – Government Expenditures for PT/OT/SLP and Prescription Medication for TRICARE ADFM/NADFM ACD Program Participants

Year	PT/SLP/OT Services	Prescription Medications	Total
Total Participant Expenditures			
FY 2019	$51,307,581	$16,420,784	$67,728,365
FY 2020	$51,337,206	$20,408,875	$71,746,081
FY 2021	$58,943,928	$17,518,502	$76,462,430
FY 2022	$51,831,907	$16,901,028	$68,732,935
Source: MDR Data as of March 29, 2023			

In addition to the ST/OT/PT and prescription services utilized by ACD beneficiaries, ADFMs may also use services provided under the TRICARE Extended Care Health Option (ECHO) program. Of the 11,980 ADFMs participating in the ACD, nearly 11 percent of these beneficiaries (1,293) also had expenditures in the ECHO program. These beneficiaries fell into two categories: beneficiaries receiving ECHO Home Health Care (EHHC) and all other ECHO beneficiaries. A total of 199 beneficiaries (15 percent) had EHHC expenditures in ECHO and 1,094 (85 percent) had non-EHHC ECHO expenditures during FY 2022. ECHO expenditures for the 1,293 beneficiaries totaled $12.3 million; $6.1 million in EHHC expenditures and $6.2 million in non-EHHC ECHO expenditures. Most ECHO expenditures (87 percent) for EHHC beneficiaries were for home visits, 10 percent were for incontinence supplies, and 3 percent were for PT/OT/ST services that were provided in the home. For ECHO expenditures for non-EHHC beneficiaries, 95 percent were for incontinence supplies and 5 percent were for miscellaneous durable medical equipment (a category that we cannot specifically classify).

DISCUSSION OF THE EVIDENCE REGARDING CLINICAL IMPROVEMENT OF CHILDREN DIAGNOSED WITH ASD RECEIVING ABA SERVICES

Previous annual reports have discussed the status of the research literature regarding ABA services. While DHA continues to monitor the literature, there have been no significant advances in the ABA research with regards to defining dose-response (including intensity, frequency, or duration), for whom ABA is most effective, and what clinical outcomes could be expected as a result of ABA interventions. As of now, ABA services do not meet the TRICARE hierarchy of reliable evidence standard for proven medical care.[3]

The TOM Change 199,[4] implemented three norm-referenced, valid, and reliable outcome measures: the Vineland Adaptive Behavior Scale – Third Edition (Vineland-3) which is a measure of adaptive behavior functioning; the Social Responsiveness Scale, Second Edition (SRS-2) which is a measure of social impairment associated with ASD; and the Pervasive Developmental Disorder Behavior Inventory (PDDBI), which is a measure designed to assist in the assessment of various domains related to ASD. Additionally, the PDDBI is a measure

[3] Title 32, Code of Federal Regulations, Part 199.2(b), Definition of "Reliable Evidence".
[4] https://manuals.health.mil/pages/DisplayManualFile.aspx?Manual=TO08&Date=2016-11-29&Type=AsOf&Filename=C18S18.pdf.

designed to assess the impact of treatments for children with pervasive developmental disorders, including ASD, in terms of response to interventions.

For the ACD, all measures are administered, scored, and interpreted by the rendering provider who has purchased the measure under their license or credential. Neither the TRICARE contractors nor DHA administers, scores, or interprets the data. The following is a summary of observations of the data collected from these outcome measures that were submitted to the contractors per the requirements of the TOM. As DHA is not conducting research, no determinations of the effectiveness of any intervention can be made. Rather, these findings provide information about participating beneficiaries, clinical presentation over time, and the best way to manage and oversee clinical care for the diagnosis of ASD.

ACD Outcome Measures – Summary of Past Findings

The Department has published several reports with findings from the available records of PDDBI scores. Initial findings published in 2019 found that overall, a significant portion of beneficiaries experienced little to no change in symptom presentation based on parent/guardian reports. Additionally, a small percentage of beneficiaries were noted as having worsening symptoms and a similar small percentage demonstrated symptom improvement. DHA also noted previously that these initial findings should be interpreted with caution as absent any industry standard or benchmark for expected change, DHA published only observations of change in scores without any additional complex analyses. In those initial reports, no other factors were considered such as age, symptom severity, number of hours of services, total duration of ABA services, other rendered clinical or non-clinical services, or academic placement.

Findings from the 2020 analysis continued to demonstrate concern with overall outcomes of beneficiaries participating in the ACD. While improvements were noted for some beneficiaries after 12 and 18 months of rendered ABA services, the changes in PDDBI Parent Form Autism Composite scores (PACS) were small and may not be indicative of clinical significance. Absent any published literature on expected change, DHA would need to take a deeper look into the clinical picture of participating beneficiaries and other variables that could impact change over time.

Findings from the 2021 analysis, which used percent change in PDDBI PACS, demonstrated that after 2 years of participating in the ACD, some beneficiaries made some improvement of symptoms associated with ASD as indicated by statistical significance. However, clinical significance continued to be undetermined. Additionally, some beneficiaries show no improvement or even worsening of symptoms over a 2-year period of rendered ABA services (57 percent of the beneficiaries saw improvements on the PDDBI PACS while 43 percent saw no improvement or worsening of symptoms). While younger children and beneficiaries with more severe symptoms made greater gains than older beneficiaries or beneficiaries with mild or no symptoms of ASD, there is still much to learn about which groups of beneficiaries are most likely to demonstrate improvements, and under what circumstances. The multiple linear regression from this analysis also indicated that younger beneficiaries were more likely to see greater gains than older beneficiaries, and that an increase in the number of rendered hours did not result in greater symptom improvement.

No outcome measures analysis was conducted in 2022 due to the implementation and transition of requirements resulting from the March 2021 policy update.

ACD Outcome Measures – Discussion of Current Findings

As a result of the March 2021 policy update, several improvements were made to data collection and reporting including identifying a range of patient-centered demographic variables. From these variables, independent effects of each of these factors on beneficiary outcomes could be identified. These variables include beneficiary age, gender, beneficiary category, region, sponsor service, sponsor rank, enrollment type, presence of other health insurance, and whether the patient disenrolled from the program during FY 2022. This data set also allowed the ability to identify a host of experimental variables to determine their independent effects on beneficiary outcomes. These variables included: different groupings of baseline PDDBI levels, PDDBI form type (extended or standard), provider model type (tiered or sole), ABA service utilization, and changes in parent stress levels.

The dependent variable in this analysis is the change in the PDDBI PACS. The Vineland-3 and SRS-2 measures cannot be used to evaluate FY 2022 data because these measures are collected at baseline and annually thereafter. At the time of this analysis, these two measures were not available as most of the beneficiaries had not received 12 months of services and completed the second administration. These two measures will be available in the future and could be used to validate the findings of this analysis. The dependent variable (change in PDDBI PACS) was measured in two ways: the percentage change in the PDDBI PACS and the absolute change in the PDDBI PACS.

This 2023 analysis is based on a data set of beneficiaries who had joined the ACD for the first time in FY 2022 and had sufficient experience during the year to have an initial PDDBI administration completed by the parent, and a follow-up administration of PDDBI after the beneficiary received TRICARE authorized ABA services. The original dataset submitted by the MCSCs included an initial population of 20,142 unique beneficiaries who were in various stages of participation in the ACD program (referred, eligible, authorized for care, receiving care, paused care), 80 percent of whom had enrolled in the ACD prior to FY 2022. It was determined that of the entire sample, 3,871 were referred (no prior connection to the ACD) during FY 2022. The data set was filtered to the final population of 497 unique beneficiaries who were referred, enrolled, authorized, and receiving ABA services (for the first time) in the ACD, who were between the ages of 1.5 and 18.5 years, who had at least two administrations of the PDDBI during FY 2022, and were authorized ACD care services for at least 120 days before the subsequent PDDBI administration.

A comparison of the final sample of 497 ACD beneficiaries to all beneficiaries (3,871) enrolled in the ACD in FY 2022 was conducted to ensure the sample population was representative of the larger FY 2022 population. In the sample of 497 ACD beneficiaries, 76 percent were younger than age 6, while in the FY 2022 population, 62 percent of participants were younger than age 6. It was found that 63 percent of the final sample resided in the East region (which is consistent with the distribution of the entire TRICARE population) versus 46 percent of the FY 2022 referred sample. All other characteristics of both populations were very similar (e.g., the percentages for males, active duty, sponsor characteristics, and TRICARE

benefit enrollment). Therefore, this final sample population is representative of the total FY 2022 population.

Outcomes of the 497 sample group were examined. This sample population received an average of 170 days of ABA services in TRICARE's ACD. At baseline, the 497 sample had PDDBI PACS with a mean of 56.89. The baseline scores had a normal distribution with 67 percent of the population falling between one standard deviation (12.46) below and above the mean (between 44.43 and 69.35). Of these 497 beneficiaries, 59 percent had an improvement in the PDDBI PACS (14.5 percent average reduction), while 5 percent had no change in scores, and 37 percent had worse scores (13.2 percent average increase). For the population overall, on average, there was a 3.6 percent reduction in PDDBI PACS which indicates improvement. This 3.6 percent improvement is equal to an average 2.8 absolute point reduction in PDDBI PACS.

Based upon the statistical analyses using regression models for both percent change and absolute point change, it was found that three factors (from the available data set) were statistically significant predictors of change in PDDBI PACS in both models: treatment adherence, parent stress levels, and baseline PDDBI PACS.

The first predictor that was significant was treatment adherence. ABA treatment plan adherence is defined as beneficiary adherence to their authorized level of treatment for direct services (CPT codes 97153, 97155, and 97156) in combination. The average adherence rate for the sample was 20.1 percent and the median was 19.2 percent. Only 15 ACD beneficiaries in the sample had adherence rates above 50 percent and only one had rates above 70 percent. In general, as levels of adherence increase, there is a greater percent reduction in the PDDBI PACS. If there was zero percent adherence, it was found that the average scores increased (got worse) by 1.7 percent. It was also found that with greater than 30 percent adherence, scores were reduced (improved) by 6.7 percent on average, nearly double the overall 3.6 percent reduction for all beneficiaries.

The regression analysis found that the more beneficiaries adhered to their individual authorized ABA treatment plan hours, the better their outcome: a 10 percent increase in adherence rates was estimated to result in a 6.1 percent (absolute change model) and 8.5 percent (percent change model) significant improvement in PDDBI PACS. While correlated, it was found that treatment plan adherence, rather than gross hours of rendered ABA services, was more important to improving outcomes.

The second significant predictor was parent stress levels, as documented by self-report in the Parenting Stress Index, Fourth Edition, Short Form (PSI-4-SF) (see the House Report for FY 2023 regarding the analysis of the PSI). It was found that increases in parental stress levels resulted in worse clinical outcomes on the PDDBI PACS. If parent stress was reduced, the PDDBI PACS improved (7.1 percent reduction on average). If the parent stress level stayed the same, the PDDBI PACS reduced (improved) by 4.9 percent on average. If parent stress levels increased, the PDDBI PACS increased (got worse) by 0.7 percent on average. Based on the regression analysis, it is estimated that if parental stress levels increased by 10 percent, PDDBI PACS clinical outcomes were significantly degraded by roughly 1 percent.

The third significant predictor was the beneficiary baseline PDDBI PACS. For those in the lowest (least severe) baseline PDDBI group (T-score less than 40), on average clinical outcomes were worse at the follow-up PDDBI administration (scores worsened by 9.5 percent on average). However, for those in the highest (most severe) baseline group, on average, clinical outcomes improved by roughly four times the improvement of the entire sample (average scores improved by 18.5 percent).

In the percentage change model only, baseline age was also a significant predictor. While, on average, all age groups made some improvements, the largest gains (improved by 9.0 percent) were for the youngest age group (under age 3), and the least amount of gains (improved by 2.5 percent) were for those in the age 3-6 group. No other independent variables (including gender, region, beneficiary category, sponsor Service, and sponsor rank) in either model were statistically significant.

ACD 2023 Analysis Limitations

While the current findings continue to improve and expand DHA's analysis of the evidence regarding clinical improvement of participating beneficiaries, there are still several limitations. First, the primary dependent variable measured is the change in PDDBI PACS as measured by each beneficiary's parent. In general, parents are not professional ABA service providers who can objectively provide an outside measure of a beneficiary's current state or progress. It is unclear how much bias is introduced by using parent completed PDDBI scores compared with scores from professionals. DHA collects the PDDBI Teacher Form; however, this data is not available at baseline (only at subsequent administrations) and therefore, not available for this analysis.

Second, the data set includes cases where the same parent or guardian did not make both the baseline and final PDDBI responses. While there is no requirement in the literature, nor in the PDDBI manual that mandates that the same parent respond to both administrations, this analysis did account for same or different responders. In 13 percent of the cases (67 cases), either a different parent or both parents were listed as responders on the final PDDBI administration. It is reasonable that different parents may have different evaluations of the same child at different points in time. While it would be ideal for the same parent to complete both administrations, the analysis attempted to control for cases where different parents responded to a PDDBI administration at baseline and later using a dummy variable.

Third, this analysis only used the PDDBI measure as other clinical measures were not available. In the future, use of the Vineland-3 and SRS-2 measures may be beneficial to validate the results of this analysis.

Fourth, the gold standard for clinical outcomes is a randomized controlled trial because it allows one to evaluate the independent effects of the experimental question. In the present analysis, DHA does not have a comparison group (control group) to determine whether PDDBI score changes are associated with ABA services, placebo, non-ABA treatments, or other associated factors for which DHA cannot control. This limitation is not within the scope of the ACD to resolve.

ACD 2023 Analysis Findings

The 2023 analysis continues to expand DHA's understanding of the optimal management of ASD under the ACD. This new sample of beneficiaries following the 2021 ACD policy update offers DHA the opportunity to expand and improve the analyses as well as continue addressing the historical concerns from stakeholders. However, DHA continues to use caution in interpreting any findings as limitations remain.

In general, the average change in PDDBI PACS was statistically significant with the youngest and the more severe at baseline having the most average change in the reduction of symptoms. However, clinical significance cannot be determined based on this data. Additionally, there is still no industry standard on how much change for which beneficiaries over what time period is to be expected. New to this analysis is the review of treatment adherence. As discussed above, these first time beneficiaries had very low adherence rates (20 percent on average). At this time, it is unclear whether the adherence results found in this analysis are generalizable to the entire population. This conclusion will have to wait until additional analyses are conducted for beneficiaries who have been in the program for more than 6 months.

Independent Analysis of the ACD

Section 737 of the NDAA for FY 2022 was revised in the NDAA for FY 2023 (section 732) to update the timeline (from 9 to 31 months) and revise the deliverables. DHA executed this contract on March 23, 2023. The analysis will be complete by October 25, 2025. The National Academies is the lead for all future communications and engagements.

LESSONS LEARNED

DHA is committed to ensuring all TRICARE-eligible beneficiaries diagnosed with ASD reach their maximum potential, and that all TRICARE-authorized treatment and services provided support this goal. Since the beginning of the ACD, DHA has made significant improvements to the program, such as increased access, implementation of recommendations in response to the DoD Office of Inspector General (OIG) reports[5,6], and collection and evaluation of outcomes measures. The comprehensive update of the ACD, published March 23, 2021, evolves the program to a more beneficiary- and family-centric model. These revisions focus not only on improving the quality, value, and access to care and services for beneficiaries diagnosed with ASD and their families, but also on improving the management and accountability of the contractors, diagnosing providers, and ABA providers.

As part of ongoing monitoring of the impact of these revisions and improved data collection, several observations regarding provider practices, provider compliance, access to

[5] DoD OIG Report: The Defense Health Agency Improperly Paid for Autism-Related Services to Selected Companies in the TRICARE South Region (Report No. DODIG-2017-064); Published: 10 MAR 2017; https://media.defense.gov/2017/Dec/19/2001858335/-1/-1/1/DODIG-2017-064.PDF.
[6] DoD OIG Report: TRICARE North Region Payments for Applied Behavior Analysis Services for the Treatment of Autism Spectrum Disorder (Report No. DODIG-2018-084); Published: 16 MAR 2018; https://media.defense.gov/2018/Mar/22/2001893494/-1/-1/1/DODIG-2018-084.PDF.

care, and contractor oversight are available for the first year following full policy implementation.

One of the goals of the ACD is to determine the appropriate provider qualifications for the proper diagnosis of ASD. With the clarification of diagnostic requirements for eligibility for the ACD published in the March 2021 policy update, DHA is analyzing diagnostic provider participation. Of the beneficiaries newly diagnosed and referred to the ACD after October 1, 2021, who were assigned an ASN and had an authorization for ABA services, DHA completed a review of the provider types diagnosing ASD (Primary Care Manager (PCM) or Specialized ASD diagnosing provider) as well as a review of the setting in which beneficiaries are diagnosed (direct care versus private sector care). The initial diagnosis for ASD was primarily completed by a Specialized ASD diagnosing provider in the private sector care setting (42 percent) followed by Specialized ASD diagnosing providers in the direct care setting (32 percent). PCMs in the direct care and private sector care were least likely to provide an initial diagnosis of ASD (17 and 10 percent, respectively). While the initial diagnosis is being made equally between the direct and private sector care settings, the majority of diagnosing providers are specialized ASD diagnosing providers.

As a critical element of contract oversight, ensuring all approved treatment plans target the core symptoms of ASD is addressed with the 100 percent treatment plan clinical necessity reviews. These reviews not only ensure compliance with the ACD policy (administrative reviews), but also ensure that beneficiary goals and progress, or lack thereof, are appropriately addressed in the respective goals and clinical recommendations (clinical reviews). After the first year of implementation, DHA analyzed the pass rate of first-time treatment plan submissions. Over 22,000 treatment plans were reviewed in FY 2022. While there were improvements in pass rates of treatment plans, only 30 percent of treatment plans were compliant at first submission by the end of FY 2022 (19 percent pass rate at the beginning of FY 2022). Common areas of treatment plan failures include: recommendations for excluded goals that are outside of the scope of the ACD, unsupported CPT code unit requests, and missing beneficiary or provider information. Improved oversight allows the contractors to provide immediate feedback and educate individual providers on requirements for clinical necessity and treatment plan compliance.

Similarly, audits of session note documentation were also completed. As reported in the DoD OIG reports, session note documentation was often insufficient for medical records justification resulting in a determination that DHA improperly reimbursed for approximately two-thirds of the paid claims. While session note documentation requirements have not significantly changed over the course of the ACD, DHA has invested significant effort into improving the quality of medical records documentation regarding ABA services. Subsequently, the 2021 policy update revised the DoD OIG recommendations to complete a minimum review of session note documentation for all services rendered. In the reviews completed in FY 2022, the contractors found that approximately 63 percent of session notes failed the audit. While a portion of these records were subject to recoupment, providers subsequently receive education and ongoing monitoring to ensure documentation compliance. With continued monitoring and oversight, DHA expects that ABA providers will improve the quality of documentation.

Another area of interest for this review period focused on issues related to access to care. DHA received feedback from individual families and other stakeholders of concerns regarding timely access to an ABA provider. The March 2021 policy update added a contractor requirement called "active provider placement" where the contractors are required to find an available provider within the access to care standard for outpatient specialty care (28 days). DHA found that approximately 32 percent of families chose to waive access to care standards to prioritize family preferences (e.g., specific providers, specific locations, or specific times of day). Additionally, DHA found that 43 percent of authorized providers under the ACD have not accepted a referral in the prior 12 months. Despite these findings, the quarterly reports demonstrate that, in general, access to care is met in most States where the contractors have identified a provider who has agreed to accept the beneficiary within 28 days and only 16 percent of initial assessment authorizations exceeded the access to care standard.

In addition to implementation oversight, DHA continues to monitor and review publicly available information regarding ABA coverage benefits for other health plans/funding sources. In December 2022, DHA completed a comparison analysis of 48 separate health plan benefits for ABA services, including TRICARE. The review focused on four distinct categories of health plans: Federal Employee Health Benefit Plan (national plans) (14), private sector plans and commercial plans (7), State Medicaid plans (15), and State employee plans (11). Included in the review are Medicaid and State employee plans in all 10 States in which TRICARE provides the highest dollar level of ABA services. The base comparison plan used to review other plan requirements was the TOM. Of the 19 main areas reviewed in this comparison (excluding reimbursement rates as commercial rates are generally not publicly available), no one plan was consistent with the next. However, some specific areas had similarities. TRICARE is more specific than some plans with regards to the type of providers who can diagnose ASD, but in general, once a patient is diagnosed, the beneficiaries have few limitations on services that they are provided as long as these services are clinically necessary and appropriate and part of the beneficiary's treatment plan. TRICARE requires use of diagnostic tools and uses the DSM-5 definition of ASD to qualify for services, as many other plans do. It was also found that TRICARE's list of exclusions are similar to those of other plans including limitations regarding school-based/educational/academic services and custodial settings. TRICARE requires that parents also be an integral part of the ABA services process, which was found to be consistent with many other plans; many plans require family member participation. It was found that there were wide differences in coverage allowances including intensity of services, maximum age of coverage, and annual dollar allotment. In general, it was found that TRICARE is one of the most generous plans with regards to age limits, dollar limits, and weekly maximum for ABA services limits. TRICARE continues to have one of the most robust ABA benefits nationwide.

CONCLUSION

While the ACD provides the authority to reimburse for TRICARE authorized ABA services delivered to TRICARE-eligible beneficiaries diagnosed with ASD, the ACD is focused on providing comprehensive services to each beneficiary so that each participant reaches their maximum potential. The March 2021 ACD policy update centered around the individual child and their family, and their unique needs by providing a dedicated point of contact to help navigate what can sometime be an overwhelming system. This individualized focus offers the families a way to respond to the dynamic needs of the beneficiary throughout their participation

in the ACD. Families can tap into the health care services and resources and can be connected to other community and non-clinical resources as they need them.

At the end of FY 2022, there were a total of 16,156 beneficiaries with a diagnosis of ASD participating in the ACD with a cost of $385.1M who also used an additional $69M in other medical services. ACD participation by beneficiary demographics reveal that 87.1 percent of ACD participants are age 13 years and younger, that the median age is 7 years, and that roughly 4 out of 5 ACD participants are male. Average receipt of ABA services during FY 2022 was 8.7 months with two-thirds of the participants receiving continued months, no breaks, of services.

Considering the literature states that parental involvement in ABA services is critical to the long-term outcomes, DHA continues to monitor parent engagement trends. In FY 2021, 76 percent of ACD beneficiaries had parents or guardians who received family treatment guidance services with an average of 9.9 hours over the FY. In FY 2022, rates of parent or guardian receipt of family treatment guidance rose to 83 percent; however, the average number of hours decreased to 8.1. With the 2021 policy requirement for six sessions of parent training over 6 months, it would be reasonable to anticipate that an increase in utilization would have occurred. However, breaks in service and the timeline for this new requirement may have contributed to the decrease. As noted in previous reports, parent engagement is critical as the beneficiary's needs evolve and transitions from one service to another occur. As parents learn and apply the principles of behavior analysis to new skills and settings, generalization and skill maintenance can endure. In the absence of consistently implementing techniques and principles, beneficiaries miss critical opportunities to expand on the learning and skill growth developed during the administration of ABA services.

The 2022 outcomes analysis continues to elevate the understanding of utilized services and the clinical impact on ASD symptom presentation. This new analysis used more data with more details for the analysis. Based on this analysis, it appears that more beneficiaries made more progress, on average, than all previous reports. Although the improvements are still small and it remains unclear if these improvements are clinically significant, perhaps these findings are promising. With the enhanced attention on ensuring beneficiaries are receiving clinically necessary and appropriate services that target the core symptoms of ASD as well as enhanced oversight and monitoring of clinical improvement, it may be that the 2021 ACD policy update has in fact begun to move the needle to address the comprehensive needs of the beneficiary and their family. However, it remains to be seen if these improvements endure.

In this analysis, new variables have emerged for DHA to explore, such as treatment adherence. While reasonable to expect that all beneficiaries would use 100 percent of their authorized hours, this analysis found that on average, TRICARE beneficiaries are receiving approximately 20 percent of their authorized care. Several factors may be impacting the receipt of more hours, but more information is needed to understand the reasons or barriers to treatment engagement. As the analysis found that treatment adherence, vice more hours, was significant for predicting clinical outcomes, additional analyses are required to understand the long-term impact of ABA service receipt (e.g., does better adherence for a shorter period of time lead to better and longer lasting improvements).

The Department continues to improve and expand the programmatic oversight and analysis of the ACD. While the Department fully supports the continued research on the nature, scope, and effectiveness of ABA services, ASD requires a broader reach for lifetime management. Focusing on only one type of intervention may lead to missed opportunities for developmental growth for the individual and the family. The 2021 ACD policy update focused on addressing the specific needs of the individual beneficiary, either through identifying the appropriate medical and clinical services or connecting families to the vast array of other programs and non-clinical resources when they are recommended. While TRICARE is leading the Nation in developing an effective ASD program model, more analysis is required to address the full scope of services throughout the lifespan of the program.