Improving Management of Pediatric Patients with Attention-Deficit/Hyperactivity Disorder at Naval Medical Center Portsmouth

LT Roger Caron, MSC, USNR

Portsmouth Naval Medical Center, Virginia

U.S. Army-Baylor

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Abstract

The purpose of this research is to determine if the selection of a primary care or psychiatrist provider, is significantly different between direct care and network providers, given similar diagnosis of attention-deficit hyperactivity disorder (ADHD) in children between the age of 5 and 17. The Chi-square statistical analysis is used to determine the extent of the relationship. Results of the test revealed a statistical significance given a Chi-square value of 365.84, 90, 1 and a critical value of 6.63. The explanation for beneficiary selection of psychiatric specialists vice their primary care provider was found to be dependant on current rules not requiring a referral for mental health care coupled with no out of pocket expense for care. The application of best business practices is explored to reduce this trend. The implementation of ADHD clinical path guidelines, marketing strategies and utilization of current pharmacy programs are recommended.

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Correlation of Attention-Deficit/Hyperactivity Disorder Pediatric Patients Managed by Providers at Naval Medical Center Portsmouth and Network Providers

Introduction

Attention-deficit hyperactivity disorder (ADHD) is the most common neurobehavioral disorder affecting 3 to 5 percent of school-age children (Zimmerman, 2003). The level of prevalence is similar for the patient population served by Naval Medical Center Portsmouth (NMCP), Virginia. NMCP is one of three Tertiary Care teaching hospitals in the Navy with residency programs in 13 specialty areas including psychology. A major renovation project, costing taxpayers over 44 million dollars, was completed at NMCP in 1999. Named the Charette Health Care Center (CHCC) it is a 1.02 million square foot facility and the most modern Military Treatment Facility (MTF) available in the Navy. The center contains over 300 clinical exam rooms, 140 specialty exam rooms and 17 operating rooms. In its first year of operation there were over 392,000 outpatient visits, 859,115 pharmacy visits and over 5,500 inpatient surgeries. The mission of NMCP, to include eight Branch Medical Clinics throughout Hampton Roads, is to provide medical care for it’s half-million beneficiaries well into the next century. While not all of the half-million beneficiaries will require specialized care a relatively small contingent will.

NMCP is one of the Department of Defense's most qualified MTF for the management of military dependents enrolled in the Exceptional Family Member Program (EFMP). EFMP is a mandatory enrollment program for all active duty personnel who have authorized family member(s) with specific medical needs (SECNAV). The EFMP was established to provide appropriate care for EFMs without adversely affecting the service member's career due to the possibility of limited worldwide assignability. OPNAV 1754.2B defines an Exceptional Family Member (EFM) as: "an authorized family member residing with the sponsor, who possesses a physical, emotional, developmental or educational disability or condition requiring special medical, psychological or educational services."

A diagnosis of ADHD is one of the qualifying conditions for enrollment into the EFMP. Family members of active duty service members diagnosed with ADHD are required to enroll in the Exceptional Family Member Program (EFMP), regardless of provider (SECNAV). The EFM is classified into one of six categories based on the severity of their condition. NMCP's EFM Coordinator, Ms. Casandra Lowe, reported that of the approximately 25,000 Navy families enrolled in the EFMP, NCMP is responsible for approximately 18%, or 4,500, of those families (personal communication, January 15, 2004).

Tricare is a regionally managed health care program for active duty and retired members of the uniformed services, their families, and survivors enrolled in DEERS. The three types of programs offered to Tricare eligible beneficiaries include Tricare Prime, Extra and Standard.

Tricare Prime is a managed care option similar to a civilian health maintenance organization. Tricare Prime has fewer out-of-pocket costs than any other Tricare option. Most of the care provided for Tricare Prime beneficiaries is from a military treatment facility (MTF), augmented by a Preferred Provider Network. Access to the Preferred Provider Network is controlled through the beneficiary's assigned a primary care manager (PCM). Those beneficiaries who want additional care by an authorized provider without getting a referral from their PCM can do so under the Point of Service (POS) option. POS claims are subject to outpatient deductibles of $300 per individual and $600 per family, 50% cost-shares for outpatient and inpatient claims, and excess charges up to 15% over the authorized amount.

Tricare Extra allows beneficiaries to choose a doctor, hospital, or other medical provider listed in their local Tricare Provider Directory. A co-pay and deductible are required when care is needed. Although a PCM is not required a statement of non-availability from the local MTF might be required before getting civilian inpatient care.

Tricare Standard offers the greatest beneficiary freedom to choose an authorized provider. This freedom to self-select any authorized provider results in the greatest out of pocket expense of all the Tricare options. Tricare Standard beneficiary's healthcare may be provided at a military treatment facility (MTF), if space allows and only after Tricare Prime beneficiaries have been served.

The sample for this study is taken from the Tricare Prime category. In accordance with the Tricare Policy Manual (TPM), Chapter 11, Section 7.1, 2002, all Tricare Prime beneficiaries will obtain their primary health care from a Primary Care Manager (PCM) of their choosing. If the PCM is unable to provide the needed service, the PCM must submit a referral for the beneficiary to receive additional, specialty or inpatient care (TPM, 2002). However, a patient seeking mental health care requires neither an initial visit nor a referral from their PCM. An evaluation for necessity of care and continued treatment is completed following the first eight sessions. Any beneficiary who feels they need mental health care can self refer to the direct care, network or non-network systems and not be subject to the POS option (TPM, 2002). The direct care system is defined as a group of military health care treatment facilities. The network system is comprised of credentialed providers who have agreed to provide services to eligible Tricare beneficiaries,

through a Managed Care Support Contract, at a predetermined reimbursement rate (TPM, 2002).

Payment for the first eight visits to the network or non-network provider is deducted from the Revised Financing budget of the beneficiary's MTF (TRM, 2002). Following the eighth mental health outpatient visit a prospective review for medical necessity is conducted (MCSC, 2001). If continued care is warranted, the beneficiary can continue treatment with that network provider regardless whether or not similar care is available in the direct care system. In those cases where continued care is not found to be medically necessary, Tricare will discontinue future payment for care (TRM).

Conditions which prompted the study

NMCP submits a yearly budget request for approval to the Resource Management/Comptroller department within the Bureau of Medicine (BUMED). An approved budget consists of numerous dedicated line items with a set amount of funds. One such line item is Revised Financing. Revised Financing is used to cover the expense of MTF Prime enrollee health care received outside the direct care system. Revised Financing does not cover retail and mail order pharmacy expenses associated with such care. NMCP's FY 2002 Revised Financing budget was $43.85 million. The total Revised Financing bill for FY2002 was over $43.80 million. $6.44 million covered mental health claims. Over $872,000 or

approximately 14% of mental health claims were for ADHD related claims. The total number of ADHD related claims exceeded 15,500 patient encounters. The total 2002 Revised Financing bill for ADHD, including the top five ADHD pharmaceuticals, was over $1.3 million for NMCP (M2).

Admiral Vern Clark, the Chief of Naval Operations (CNO), released his Commander's Guidance for 2004 to the Fleet the first week of January 2004 (Clark, 2004). His message to the enterprise was clear and applicable to every component of the Navy. Naval Commanders at all levels are encourage to promote a more decentralized approach to management by promoting competition and rewarding original, efficient initiatives. Encouraging a new culture of innovative thinkers throughout the Navy, Admiral Clark (2004) further charges every organization to develop a culture of improved productivity by applying the following principles. Leverage technology to improve performance and minimize manpower cost. Second, promote competition and reward innovation and efficiency. Third, challenge institutional encumbrances that impede creativity and boldness in innovation. challenge every assumption, cost and requirement. Forth, aggressively divest non-core, under-performing or unnecessary products, services and production capacity and challenge every assumption, cost and requirement (Clark).

NMCP's Strategic and Annual Plan, 2004, found in Appendix A, is reflective of the CNO's call for a more fiscally efficient Navy. Some key initiatives include the development and implementation of clinical path guidelines, reducing network referrals to less than 200 per month, and incorporating best business practices throughout the NMCP enterprise with the goal of attaining a Revised Financing bill under $37 million. In relation to the subject of this study, the continued practice of referring, and paying for, over 60% of its Tricare Prime, school-aged, ADHD patients is unacceptable. Therefore, a study of current resource utilization in the referral and treatment of ADHD patients is necessary to determine the significance of variation and opportunities for improvement.

Statement of problem

Given a similar level of ADHD complexity, is there a significant relationship between provider specialty, pediatrician or psychiatrist, and system affiliation, direct care or network? If so, what are the best business practices available to reduce the number of network visits while maintaining the highest standards of medical service?

Literature review

ADHD symptoms were first recognized in children and documented by medical science in 1902 (CHADD, 2001). Since then the medical community has yet to determine a definitive "test"

for ADHD (Zimmerman, 2003). The American Academy of Pediatrics (2001) states that ADHD is the most prevalent chronic disorder in children between 6 and 12 years of age representing 3 to 5 percent of the that population in the United States. These children may experience academic underachievement (Zentall, 1993), relationship problems on a social and individual scale, (Chan, et al, 2002), and progressively complex psychiatric disorders later in life (Guevare, et al, 2001). Chan et al. determined the overall cost to treat ADHD pediatric patients was significantly greater when compared to the general pediatric population at a ratio of 67:1. Dulcan and Benson (1997) found that as much as 65% of children diagnosed with ADHD continue to show symptoms into adulthood. Numerous studies found that, at some point in their lives, over 50% of children with ADHD will have one or more additional psychiatric conditions as a secondary diagnoses, or comorbidity (Watkins, 2002). Early diagnosis and treatment can deter the manifestation of these symptoms into adolescents and adult life (Zimmerman).

To ensure continuity of practice and to facilitate evidence-based medicine a diagnosis of ADHD must be systematic and comprehensive (Institute, 2003). In an effort to meet this goal the American Academy of Pediatrics in collaboration with the Agency for Healthcare Research and Quality published a clinical algorithm for the diagnosis and evaluation of a child

with ADHD (AAP Diagnosis, 2000). Common practice currently supports a child meeting six of the nine characteristics outlined in the Diagnostic and Statistical Manual, 4th Edition (DSM-IV) classification system (Herrerias, et al.,2001). Satisfying any of the DSM-IV characteristics is highly subjective and heavily dependent on the provider interpretation of personal interviews and questionnaires. Wide variations in diagnosis were also found in relation to geographic areas and countries (AAP Diagnosis, 2001).

AAP (Diagnosis, 2001) found that many providers are aware that determining a diagnosis using the DSM-IV minimum item method has no empirical data supporting its practice. However, with no clear "test" for ADHD (Selekman, 2002) most providers practice in complete autonomy using their clinical experience and the highly interpretive DSM-IV characteristics to determine a diagnosis of ADHD (AAP Diagnosis, 2001). The clinical practice guidelines published by the AAP and ICSI are intended to assist the primary care physician in the diagnosis, evaluation and treatment of children with ADHD. However, other systematic algorithms for the management of chronic conditions in primary care have been developed but have not been widely adopted (IHCI, 2003). Camp et al. (1997) found that many primary care physicians feel they lack needed experience in dealing with ADHD

and are uncomfortable diagnosing and treating patients with ADHD.

Treatment of an ADHD child can be as complex as a proper diagnosis. The Institute for Health Care Improvement (2003) found that a great majority of primary care providers working in a busy acute care clinic are not sure how to best manage children with ADHD. Currently there is no cure for ADHD and varying degrees of treatment protocols are dependent on the severity of ADHD a patient is diagnosed with (Jensen, 2001). Treatments vary from the use of FDA approved medications, individual and group counseling to complementary and alternative medicines (CAM) (Chan, 2002). Following an accurate diagnosis, the pinnacle of any successful ADHD treatment is a multimodal comprehensive approach to manage a treatment regiment that includes the appropriate use of medication, behavioral therapy, or both to substantially improve the child's and family's well being (IHCI, 2003).

The Institute for Clinical Systems Improvement's (ICSI) guideline for the Diagnosis and Management of ADHD in Primary Care for School Age Children and Adolescents (2003) recommends that a referral decision by a primary care provider, who's patient is identified with an ADHD comorbid condition, is based on the complexity of the comorbid condition and the provider's level of expertise and knowledge. The primary care provider can

most effectively manage the efficacy of various treatment options from the initial diagnosis through medication management, if needed, and continuing routine care (ICSI, 2003).

A study by Busch et al. (2002) examined the comorbidity prevalence between ADHD children managed by pediatric clinics and psychiatry clinics. The findings of this study found no statistically significant difference between the two group practices in their treatment of ADHD children. Busch et al. summarize by stating, "The findings of this study underscore the importance of the role of pediatricians and primary care providers in recognizing comorbid psychiatric disorders and dysfunctions among children with ADHD."

Purpose

The purpose of this study was to determine if a relationship exist between provider type and system affiliation for the management of pediatric patients with ADHD.

Methods and Procedures

Data source

Data used in this study was gathered from The Management Analysis and Reporting Tool (M2). M2 is a data mart and information system that contains a subset of the enterprise's data. It is a powerful ad-hoc query tool that is commonly used by MTFs, Tricare Management Activity (TMA), Managed Care Analysts, Healthcare Planners, Resource Managers, and Financial

Analysts at all MTF levels (Bowman, 2002). M2 data is pulled from the Military Health System (MHS) Data Repository (MDR). The MDR sources of data come from the entire Department of Defense (DoD) Direct Care and Network Claims nodes. An outline of the data flow process is illustrated in Figure 1.

SOURCES -> -> ->	REPOSITORY -> -> ->	DATA MART
CHCS (Clinical)		
DEERS (Eligibility)		
	MDR	M2 (Ad hoc reports)
MCSCs (Revised Financing)		
EAS IV (MTF Cost)		

Figure 1. Sources of data that constitute the Management Analysis and Reporting Tool (M2).

These include: the Composite Health Care System(CHCS), the Defense Enrollment Eligibility Reporting System (DEERS), Managed Care Support Contractors (MCSCs), and the Expense Assignment System Version IV (EAS IV)(Bowman).

CHCS is the primary operational system supporting the entire DoD MHS as an automated medical information tool used in clinical settings. Some of the more common functions of CHCS include patient registration, admission, inpatient activity,

outpatient administration data, appointment scheduling, laboratory and radiological test results, pharmacy orders, Ad hoc reporting and recording diagnosis and procedures. The recording of a patient's diagnosis and procedures performed is accomplished through the use of the International Classification of Disease, Ninth Revision (ICD-9) coding system. The ICD-9 is the official coding system for the DoD MHS and all medical treatment centers in the United States (CDC, 2003).

DEERS is the system of record for eligibility and enrollment for the MHS. DEERS is also used as a planning tool to project future health care needs, and cost, by location based on the number of eligible beneficiaries in a location. Based on future workload projection by DEERS medical resources are allocated throughout the DoD MHS to minimize the expense of purchased care in the network.

MCSCs are responsible for the processing of claims provided within the network. These claims, often referred to as claim reports, are filed as a Health Care Service Record (HCSR) to TMA for payment. A HCSR contains detailed information about the patient's treatment encounter with an authorized provider.

EAS IV is the central data repository system for the DoD MHS. It is the only cost allocation system within the MHS to track clinical workload, labor hours, fixed and variable expenses per unit of service provided.

Reliability and validity

Reliability refers to the accuracy and precision an instrument has in reporting data multiple times (Cooper & Schindler, 2000). MDR is constantly updated therefore, the reliability of M2 to consistently report the same result at different times, using the same query limits, is unlikely. By strict definition, M2 is not a highly reliable tool. However, the accuracy of the data reported is the most accurate available and is used through out the MHS.

Validity, as defined by Cooper, et al.(2000), is the degree which a tool actually measures what it reports to measure. The specific criterion measured in this study is defined within the Variables and measures section of this study. Discriminating between two similar groups, the ADHD, school-aged, Tricare Prime population seen by either pediatric or specialized providers is concurrent, criterion-related validity (Cooper & Schindler, 2000).

Ethical concerns

The study is descriptive and did not require interaction with, or the permission of, the subjects. No specific identifying characteristics that could be linked to individuals, either alive or dead where part of this study. Naval Medical Center Portsmouth's participation in this project was voluntary.

Variables and measures

There are two measures in this study, Primary Care and Specialist. Data was coded as binary with the following criteria. The dependent variable (Y) is the system a provider works in; 1 if network and 0 if NMCP. The independent variable (X) is the type of provider, 1 if Primary Care (PC), 0 if Specialist. The alternate hypothesis, H_a, states that provider type differs according to system affiliation for the treatment of an ADHD pediatric patient with a secondary diagnosis of mental disorder. The null hypothesis, H_o, states that provider type does not differ according to system affiliation for the treatment of an ADHD pediatric patient with a secondary diagnosis of mental disorder.

Assumptions

Two assumptions were made based on the current literature. First, the medical outcomes for all patients were similar regardless of provider type and system affiliation. Second, the patient's sponsor is exercising their opportunity to self refer to either a primary care or specialist at NMCP or in the network.

Sample size

The sample size consisted of n=524 children and adolescents of both genders, 1 to 17 year old. Identification of specific gender as a function of parent or guardian selection of provider

is irrelevant considering the purpose of this study. The sample selection is further limited to only Tricare Prime members with a primary diagnosis of ADHD and a secondary mental disorder diagnosis. The primary diagnosis of ADHD was determined by the ICD-9 codes 314 through 314.9. The secondary diagnosis included all mental disorders coded 295 through 313.9 per the ICD-9. To isolate those providers managing a treatment regime, initial visits were excluded from the sample to account for referral visits. The result of the constraints is 524 Tricare Prime children less than 18 years old, with follow-up for the treatment of ADHD and a secondary mental disorder. Primary care and pediatricians were grouped together. Psychiatrist, counselors, social workers and nurse practitioners specializing in psychiatry were grouped together under the heading Specialist. The data was gathered from M2 and consisted of both the direct care and network system serving Naval Medical Center, Portsmouth, Virginia for 2002. Table 1 shows the dependant and independent variables arranged in a 2 by 2 table.

Table 1

Observed number of Follow-Up ADHD visits

	PC*	Specialist**	Totals
NMCP	169	38	207
Network	4	313	317
Totals	173	351	524

* Primary Care and Pediatrician.

** Psychiatrist and other mental health professionals.

Statistical test

A non-parametric test, chi-square (χ^2), was used to determine the statistical significance of association between the stated variables. However, the strength of any association can not be determined using the χ^2 test. The alpha probability (α) was set at p=.01 to reduce the probability of a Type I error. The degrees of freedom (df) parameter was determined using the formula:

$$\begin{aligned} df &= (\#rows - 1) * (\#columns - 1) \\ &= (2 - 1) * (2 - 1) \\ &= 1 \end{aligned}$$

The critical value for right tail χ^2 test with 1 df is 6.63 with an α at .01 level (critical value from Sander & Smidt, 2000, Appendix A-15). The formula used to find χ^2 is:

$$\chi^2 = \frac{n(AD - BC)^2}{(E*F*G*H)}$$

The expected values for the data set were calculated using the below formula:

When A B C D E F G H are

	PC	Specialist	Totals
NMCP	A	B	E
Network	C	D	F
Totals	G	H	n

A expected value = (E*G)/n B expected value = (E*H)/n

C expected value = (F*G)/n D expected value = (F*H)/n

The χ^2 coefficient is dependent on the strength of the association between the variables and the sample size. If the result of the χ^2 test of association between the provider type and system is statistically significant, Phi will be used to measure the relative strength of the association. Phi adjusts the χ^2 significance of the association by factoring out sample size. Phi, sometimes referred to as Pearson's r, measures the strength of the relationship between the sum of cases on one diagonal less the sum of cases on the remaining diagonal, adjusting for the distribution of the variables (Conner-Linton, 2003). Phi values range from 0 to 1 with the higher value

representing greater strength of association between the variables. The formula used to find Phi (ϕ) is:

$$\phi = \sqrt{\chi^2 / n}$$

Shared variance was used to describe the amount of influence a type of provider, the independent variable, has on the system in which they work, the dependant variable. Squaring the product of Phi and multiplying the product by 100 determined the shared variance as a percentage (Conner-Litton, 2003):

$$(\phi^2)*100$$

Results

Table 2 summarizes the results for the expected values. These values were then used to complete the χ^2 test. The result is a χ^2 value for the sample. The results are shown in Table 3.

Table 2

Expected values for Table 1

	Primary Care	Specialist
Network	68.34	138.66
NMCP	104.66	212.34

Table 3

Chi-square results

$$\chi^2 = \frac{((169-68.34)-0.05)^2}{68.34} + \frac{((38-138.66)-0.05)^2}{138.66} +$$

$$\frac{((4-104.66)-0.05)^2}{104.66} + \frac{((313-212.34)-0.05)^2}{212.34}$$

$$= 148.12 + 73.15 + 96.91 + 47.67$$

$$= 365.84$$

A critical value of 6.63 at the α .01 level with 1 df is less than χ^2 of 365.84. Showing a statistically significant association between the type of provider treating Tricare Prime minors with ADHD and mental disorders and the system that they work in. Therefore, the H_o is rejected and the H_a is accepted. Determination of the relative strength of the association produced a Phi value of .8356 on a 0 to 1 scale. The resulting shared variance is 69.82% of the selection of provider is accounted for by system affiliation. The results of Phi and shared variance are contained in Table 4.

Table 4

Phi and shared variance(S.V.) methodology and results

$\phi = \sqrt{\chi^2 / n}$	S.V. = $(\phi^2)*100$
$\phi = \sqrt{365.85 / 524}$	S.V. = $(0.8356^2)*100$
$\phi = 0.8356$	S.V. = 69.82%

Approximately 70% of the variance in predicting the provider system affiliation is accounted for by the type of provider treating a pediatric ADHD patient.

Discussion and Recommendations

The mission of Navy Medicine has not changed; the business of how to accomplish the mission has. In keeping with the intent of the CNO's guidance for 2004, the leadership at NMCP continues to challenge every assumption, cost and requirement to improve its fiscal strength and medical effectiveness. The findings of this study show the selection of provider, primary care of specialist, to diagnose and treat ADHD is not dependant on the severity of ADHD but rather the system in which that provider works. Determining why the selection of specialist in the network is grossly higher than at NMCP is beyond the scope of this study. Future surveys of parents with and without children with ADHD would be helpful in identifying why some many elect to have their child seen by network providers vice NMCP providers and why many continue to perceive better care from a specialist vice their primary care physician. One possible reason is the current Tricare rule allowing patients to self-refer for mental health visits without being evaluated by their PCM.

Tricare rules allow a beneficiary to self-refer for the first eight mental health visits before the first review for necessity (TPM, 2002), which directly impact the Revised

Financing budget of the beneficiaries MTF (TRM, 2002). The challenge then becomes how to get a beneficiary to choose a NMCP provider vice a network provider. Three initiatives were examined to as a means of influencing beneficiary choice. First, improving the ADHD process through utilization of clinical path guidelines (CPG) for the diagnosis and treatment of ADHD; second, following the implementation of ADHD CPGs, the marketing of NMCP's ADHD treatment capabilities to beneficiaries and finally the utilization of the Tricare Mail Order Pharmacy (TMOP) as a convenient option for receiving medication.

Clinical path guidelines

The process of developing, validating and utilization of a new CPG in any health care organization can take more than a year to complete. Therefore, a CPG task force would need to be created and incorporate key stakeholders of the process diagnosis and treatment process. The primary stakeholders would include a senior psychiatrist and a senior PCM. Fortunately, the ICSI's Diagnosis and Management of ADHD in Primary Care for School Age Children and Adolescents CPG (2003) along with the American Academy of Pediatrics (2001) CPGs for the diagnosis and treatment of ADHD are available for use as a starting point. Consideration of these CPGs would greatly reduce the developmental and validation process for the CPG task group. Acceptance by NMCP's health care providers, primarily the PCMs,

is key to the success this initiative. Use of an ADHD CPG will increase the confidence of a PCM in their ability to diagnosis and manage the treatment of ADHD patients. The results would be measured by a reduction of referrals submitted by PCMs requesting psychiatric consultation for the diagnosis of ADHD. A follow on recommendation would be for the psychiatric department to develop a treatment protocol for the medical management patients to possibly include the use of social workers. The use of an ADHD CPG would help control the number of network referrals but it does not directly influence a beneficiary to initially choose a direct care provider. Following implementation of an ADHD CPG the next objective is to influence parents to choose their child's PCM for diagnosis and management of ADHD. This can be accomplished through strategic marketing.

Marketing

Marketing is, as defined by the UK Chartered Institute of Marketing, the management process responsible for identifying, anticipating, and satisfying customer needs profitably (Marketing, n.d.)". Further distinction is made when identifying internal (NMCP staff) and external (patient, or patient's parent) customers. Internal marketing efforts would focus on informing NMCP's medical staff of the new CPG usage and any new initiatives available in the treatment of ADHD such as an extended hours clinic. Included, as part of the internal

customer marketing plan needs to be NMCP's EFM Coordinator. Inclusion of the EFM Coordinator as a supporter and marketer of NMCP efforts to improve the diagnosis and treatment of ADHD is the most direct route for educating families new to the area that are enrolled in the EFMP.

Assuming the patient's parents priority needs are access to care in a timely manner and effective treatment, marketing to the external customer is focused on informative advertising. The most cost effective marketing approach to reach NMCP's external customers would be the inclusion of NMCP's capabilities to diagnose and treat ADHD more effectively than network providers into existing marketing efforts. A list of Tricare's Best Marketing Practices is contained in Appendix B. The aim of this marketing strategy is to significantly reduce the amount of future diagnostic ADHD exams performed by network and non-network providers. Marketing the NMCP as a patient's first choice for ADHD care will help to reduce the Revised Financing expense for network visits, but not the pharmaceutical portion of treatment. Marketing of the TMOP will serve to reduce the Revised Financing pharmaceutical expense associated with ADHD treatment.

Tricare mail order pharmacy

TMOP is a medication mail order service available to active duty service members and Tricare eligible beneficiaries under 65

years of age (Pharmacy, n.d.). TMOP is intended for those individuals with long term prescription needs for continuous conditions (Pharmacy). Pharmaceuticals available for the treatment of ADHD through the TMOP are not refillable per federal law, however up to a 90-day supply is authorized (The Department of Defense Pharmacoeconomic Center (n.d.). A specific list of top prescribed ADHD drugs that are available through TMOP are listed in Appendix C. The TMOP option does require a 3 dollar co-pay for generic drugs and a 9 dollar co-pay for brand name drugs for non-active duty members (Pharmacy). Beneficiary use of TMOP directly reduces NMCP's, or any MTF's, pharmacy expense. TMOP is funded by the DoD Medicare Eligible Retiree Health Care Fund and is managed by the TMA, per DoD Instruction, Number 6070.2. The aim of marketing TMOP to NMCP' beneficiary population is to decrease its pharmacy expense. Any eligible beneficiaries can participate in TMOP regardless of the prescribing physician affiliation.

Conclusion

The objective of this research was to determine whether or not the selection of provider, primary care or psychiatrist, was significantly different between direct care and network providers, given similar diagnosis of ADHD in school-aged children. Results of the Chi-square test revealed a statistical significance given a Chi-square value of 365.84 and a critical

value of 6.63 at the α .01 level with 1 df. The implementation of ADHD clinical path guidelines were recommended as possible ways of increasing primary care physician proficiency in the diagnosis and treating of ADHD. Marketing strategies and utilization of TMOP were examined as ways to increase the effectiveness and efficiency for managing school-aged children with ADHD at NMCP.

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Appendix A.

Naval Medical Center Portsmouth

Strategic and Annual Plan 2004

	Goal	Objectives
Readiness	Support wartime and all other contingency operations.	❖ An integrated, web-based, electronic data source is in place for reflection of accurate, real-time Individual Medical Readiness (IMR).
People	Enhance job satisfaction through recognition, clear communication and career development.	❖ Reward and evaluation systems are in place that consider productivity in clinical service, administration, teaching and research.
		❖ Effective leadership and mentoring exists at all levels of the organization.
		• Staff are recognized in a timely and appropriate manner.
Health Benefit & GME	Our patients perceive that they are the most important part of our business.	• Advanced access is implemented in all primary care clinics.
		• Patients have access to services, assistance and information when they want it.
	Provide safe, high quality health care.	❖ NMCP is continuously survey ready.
		❖ Clinical practice guidelines are developed and implemented and clinical care is driven by evidence-based medicine.
		❖ Population health services are in place to improve health and avoid illness.
	Academic excellence is evident.	• GME, nursing and other training programs are showcased.
		• Research process is effective and efficient.
Best Business Practices	Leverage technologies that promote best business and clinical decisions.	❖ A consulting/advising group exists for evaluating and implementing technology.
		• A voice recognition system is in place.
	Maximize value of healthcare through best business practices and clinical efficiency.	• Budget gap is closed: - Revised financing bill is ≤ $37M - Referrals to network ≤200/month ❖ Third Party Collections are increased from 6% to 10%
		❖ Best business practices are incorporated at all levels of the organization.
		• NMCP staffing is right-sized for new DODHA financing.
		• Managed care contract transition is optimized.
		❖ Mechanisms are in place to increase visibility of cost of healthcare choices available to providers.

Appendix B.

Marketing tactics and techniques being used currently to increase enrollment in TRICARE Prime at MTFs:

1) Open houses at hospitals/clinics
2) Local line commander endorsement
3) Extended clinic hours for Prime enrollees
4) "Prime Mobile" - checks/immunizations in housing areas
5) Provider directories/qualifications
6) Simpler briefings - "how you get care here"
7) Immediate enrollment in Prime at MTF (no delay until beginning of month)
8) Priority parking for Prime enrollees
9) Follow-up package to enrollees, welcoming them to Prime and introducing staff/providers
10) Easy access to appointment scheduling
11) Messaging: "Come to hospital, and we'll take care of you."
12) Potential MTF Prime enrollment cutoff dates due to capacity
13) Infant car seat check - event sponsored for safety check that permitted marketing opportunity to family members
14) Establish community councils to encourage two-way communications and to ensure health care programs are meeting beneficiary expectations

Appendix C.

Tricare Mail Order Pharmacy's (TMOP) List of Controlled Substances for Attention Deficit Hyperactivity Disorder (ADHD)

Drug

- Adderall and Adderal XR tablets
- Dexmethylphenidate tablets (Focalin)
- Dextroamphetamine tablets and Spansules
- Methamphetamine tablets (Desoxyn)
- Methylphenidate Immediate Release, Sustained Release, and Extended Release tablets (Ritalin, Ritalin SR, Methylin, Methylin ER, Metadate ER, Metadate, CD, Concerta)

TMOP Limit

Maximum of 90 days supply. No refills on Schedule II drugs pers federal law.

Retail Pharmacy Limits

Maximum of 90 days supply. No refills on Schedule II drugs pers federal law.