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Children with High Health Care Utilization and Special Health Care Needs

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Introduction

Although children generally have lower health care expenditures and utilization than adults, as is also true for adults, a small percentage of children account for a large share of pediatric health care costs (Simpson et al., 2005). Furthermore, high expenditures can be indicators of childhood illnesses that may result in chronic health conditions and could sum to a lifetime of high health care utilization. As a result, there has been growing interest in identifying children at risk for high future expenditures who might benefit from medical management to improve health outcomes and reduce health care utilization and costs. However, identifying individuals that can benefit most from medical management is challenging, particularly in a pediatric population where the vast majority are in good health and use relatively few services.

The military health system (MHS) offers a unique environment for studying children's health care expenditure patterns. The MHS provides health care to approximately two million children (Williams, 2004), about one-fifth of the population served by the MHS. Administrative data from the MHS provides utilization, cost, and diagnostic information that can be used to examine health care expenditures in a broad-ranging population of children who reside in varying regions of the county, and come from a range of socio-economic and socio-demographic backgrounds. Although children receiving treatment through the MHS are not a random sample of the pediatric population, they are at least, if not more, representative than children enrolled in Medicaid. Medicaid-covered children are often used for these analyses because of the relatively ready access to claims data on their utilization and costs.

This study uses data for children served by the MHS to focus on two populations of children at risk for future high expenditures: (1) children with current high expenditures, and (2) children with special health care needs (CSHCN). CSHCN have a broad range of chronic conditions, including physical, developmental, behavioral, and emotional conditions. Previous studies have found higher than average rates of health care utilization among CSHCN across a broad range of services (Weller et al., 2003; McPherson et al., 1998; Chevarley, 2006). Like other children, most of those covered by the MHS have low costs (Walsh et al., 2005). However, as is true for the general population, health care spending for children is highly skewed, and 5% of children account for 42% of MHS spending on children (Walsh et al., 2005). A study of CSHCN in the MHS found that they are more likely to inpatient and ambulatory care services (Williams et al., 2004).

The study characterizes the children in these populations in terms of their demographics, diagnostic profile, and service utilization and compares each group to other children served by the MHS. We then look at whether cost prediction models can identify children most likely to have high future expenditures, who may benefit the most from medical management. Cost prediction can be more challenging for children than adults because most cost prediction models perform poorly for populations, such as children, that have low morbidity (Fowler and Anderson, 1996; Kronick et al., 2000; Kuhlthau et al., 2004). We used Diagnostic Cost Group (DCG) prospective risk adjustment to classify children in groups by expected costs in FY2005 based on clinical characteristics in FY2004. We then looked at whether children prospectively identified as likely to have high health care expenditures do, in fact, have higher future expenditures than other children. Identifying high-cost children and CSHCN at risk for future high expenditures

could provide information for case management and opportunities to improve care and control costs

Data

The study population includes children age 1-17 enrolled in TRICARE Prime who reside in the continental United State, Alaska, or Hawaii. TRICARE Prime is a managed care plan that is one of the health insurance options offered to dependents of active duty and retired members of the uniformed services. Other TRICARE insurance options available to dependents include a fee-for-service indemnity plan and a preferred provider organization (PPO). The majority of children covered by TRICARE are enrolled in TRICARE Prime, which provides services through military treatment facilities (MTFs) and a network of contract civilian providers. Children under age one were not included because utilization data for newborns in TRICARE Prime are incomplete.

Analyses include children with a full year of TRICARE Prime enrollment in FY2005, as well as children who died in FY2005, but were enrolled in at least the first month of the year (N=1,013,928). We included children who died because we expect that they may be disproportionately likely to incur high costs. Cost prediction models, which require two full years of data, are restricted to children with a full year of enrollment in FY2004 and FY 2005 (N=818,883).

We obtained data on enrollment and health care service utilization data for children in TRICARE Prime from a number of different sources. The Defense Enrollment Eligibility Reporting System (DEERS) file provided information on demographic and other characteristics of people eligible to receive benefits from the MHS, historical information on eligibility for MHS benefits, and historical information on enrollment in PRIME or other TRICARE insurance options. Encounter data for services provided through MTFs were obtained from the Standard Inpatient Data Record (SIDR) and Standard Ambulatory Data Record (SADR) files. SIDR records contain diagnosis codes, procedure codes, admission and discharge dates, and service cost information. SADR records include diagnosis codes, procedure codes, provider specialty, dates of service, and service costs. The Health Care Service Record—Institutional (TED-I) and Health Care Service Record—Non-Institutional (TED-NI) provided comparable claims data on services purchased from civilian providers. MTFs operate under fixed budgets and do not receive claims-based payments for services delivered. Cost information for services delivered in MTFs in SIDR and SADR records is imputed costs, while TED-I and TED-N records have paid amounts from claims for purchased care services. Finally, data on prescription drugs were obtained from the Pharmacy Data Transaction Service (PDTs) file, which includes National Drug Codes (NDCs), therapeutic Class, dosage, dispensing date, and claims paid amounts.

We constructed person-level records with information on enrollee characteristics, as well as service utilization and costs summarized for FY2004 and FY2005. Enrollee characteristics included age, gender, region of residence, and ZIP code. Health care expenditures and utilization were summarized in total and by eight service categories: inpatient; outpatient office, clinic, or hospital outpatient department; emergency room; laboratory; radiology; prescription drugs; home

health; and other. Office services were further stratified by type of provider (primary care, specialist, mental health, and non-physician providers).

Methods

Children are categorized by whether they are high utilizers and whether they have special health care needs. High utilizers were identified on the basis of total annual health care expenditures, including inpatient and outpatient services provided by MTFs and civilian providers, as well as prescription drugs. High utilizers were defined as children whose health care expenditures are in the top 5 percent of the pediatric population in that year. These are children with expenses greater than \$3,972 in FY2005 and \$3,708 in FY2004.

Children with special health care needs (CSHCN) were identified using an algorithm based on diagnoses reported in claims and encounter data. Although CSHCN are often identified using survey-based screeners, this type of information was not available for our study population. We created a list of conditions that would identify a child as having special health care needs defined by ICD-9 diagnosis codes from publications from the Foundation for Accountability (FACCT) and Shenkman et al. (1996). We relied primarily on the FACCT list of ICD-9 codes for identifying CSHCN, but we added ICD-9 diagnosis codes for some important conditions from Shenkman's list (hyperkinetic syndrome, moderate or severe conduct disturbance, and asthma). For a child to be classified as having one of the conditions on the list, they needed at least two claims on different dates with a qualifying diagnosis code. We used a comparable requirement to identify children as having selected chronic medical conditions.

We used the DxCG medical cost risk-adjustment model that utilizes demographic, diagnosis, and pharmacy information in administrative data to predict future health care costs. Data for FY2004 were used to predict health care costs in FY2005. A previous study on children enrolled in Medicaid in three states showed similar performance for a variety of diagnosis-based risk-adjustment methods (adjusted clinical groups [ACG], aggregated diagnosis groups [ADG], diagnostic cost groups [DCG/HCC], and the Chronic Illness and Disability Payment System [CDPS]) (Kuhlthau et al., 2005). The study also found that incorporating National Drug Codes (NDCs) from pharmacy claims in risk adjustment models improved predictions for children with SSI, who are presumably sicker than other Medicaid-eligible children. The DxCG risk adjustment model is a commercially-available version of the DCG/HCC model.

Diagnoses are mapped to DxGroup categories, which in turn map into 184 Hierarchical Condition Categories (HCCs). Condition categories are arranged in hierarchies of similar type and financial impact, generally by body system or disease. Within a disease hierarchy, only the most severe condition impacts an individual's risk assessment. Each individual may be assigned to one of 32 age-gender categories and anywhere from zero to multiple HCCs, reflecting his or her full spectrum of medical conditions. The demographic and HCC assignments are used (based on a regression model in a national benchmark population) to assign relative risk scores (RRS). In the prospective model used here, the RRS is proportional to next year's expected cost; that is, a person with an RRS score of 2 is expected to cost twice as much as a person with an RRS of 1. We refer to the RRS as the DCG risk score. Children were placed into five Aggregated Diagnostics Cost Group Categories (ADCG) by their expected FY2005 costs derived from the prospective DCG score. ADCG equal to 0 includes children with expected costs less than

\$1,000; ADCG equal to 1 includes those with expected costs of \$1,000 to \$4,999; ADCG equal to 5 includes those with expected costs of \$5,000 to \$9,999; ADCG equal to 10 include those with expected costs of \$10,000 to \$24,999; and ADCG equal to 25 includes those with expected costs of \$25,000 and higher.

Results

Children's Characteristics and Expenditures

Table 1 compares demographic and clinical characteristics of children enrolled in TRICARE Prime in FY2005 depending on whether they are categorized as a high utilizer and whether they are identified as having special health care needs. By definition, 5% of children are categorized as having high utilization. Fourteen percent of children are identified as having special health care needs. Male children are significantly more likely to have high utilization and special health care needs than females. While high utilizers are more likely to fall in the younger and older age categories (1-4 and 15-17), CSHCN are significantly less likely to be in these age groups and are more likely to be age 5-14-. Having special health care needs and high health care expenditures are strongly correlated. Over two-thirds (66%) of children with high utilization have special health care needs, compared to 11% of other children. Similarly, almost one-quarter (24%) of CSHCN have expenditures in the top 5%, compared to 2% of other children.

Children defined as high utilizers have considerably more clinical conditions present in administrative data than other children. Nearly one-quarter (23%) of high utilizers have one or more psychiatric diagnoses in FY2005. This is in contrast to only 3% of other children. Almost 20% of high utilizers have a diagnosis of asthma compared to less than 4% of other children. Hyperkinetic syndrome of childhood, which includes attention deficit hyperactivity disorder, is present in 16% of high utilizing children, but less than 4% of other children. These conditions are also the most prevalent among CSHCN. Almost one-third (32%) of CSHCN were identified as having hyperkinetic syndrome of childhood and nearly as many (31%) had other psychiatric diagnoses. Over one-quarter (28%) had asthma. Because most of these conditions were used to identify CSHCN, meaningful comparisons cannot be made by special health care needs status.

Not surprisingly given how they are defined, children who are high utilizers have substantially higher expenditures than other children (Table 2). The median expenditure for children who are high utilizers is almost 14 times higher than that of other children (\$6,259 vs. \$451). Although almost 90% of children not categorized as high utilizers have some health care expenditures during the year, the median expenditure for those using services is also far lower than that for high utilizers (\$562 vs. \$6,259).

High utilizing children have considerably greater use of services and significantly higher expenditures than other children across all categories of service. Over one-third of high utilizers have an inpatient admission compared to less than one-half of one percent for other children. The median amount paid for children with an admission is almost three times higher for high utilizing children because they both are hospitalized more often during the year and longer lengths of stay (data not shown).

The vast majority of children saw an outpatient provider in an office, clinic or hospital outpatient department, although high utilizing children were more likely than other children to do so (over 99% compared to 83%). The median expenditure for high utilizing children that had a visit was eight times higher than the median for other children (\$2,554 vs. 321) and they had four times as many visits (data not shown). A similar pattern emerges when examining service utilization by type of clinical specialty (primary care, specialty, and mental health), although the median expenditure differential is less. High utilizers are substantially more likely to see all types of providers for an outpatient visit. Most notably, two-thirds of high utilizers see a specialist and 30% see a mental health provider, four to five times the rates for other children. Among those using services, high utilizers have median expenditures that are roughly three times the level of other children across all types of providers.

Seventy percent of high utilizing children have an emergency department visit, in contrast to less than 30% of other children. And the high utilizers have more than a two-fold higher median expenditure for emergency department care in comparison with other children. Virtually, all high utilizing children use pharmacy services (98%) in contrast to 69% of other children and the cost of medications for those with a prescription is seven times higher. Almost one-fifth of all high utilizers receive home health services, while only 1% of other children use home health care.

CSHCN also have considerably high levels of service use than other children, although the differential is not as great as that for high utilizers. The median expenditure for CSHCN (\$2,035) is about one-third that of high utilizing children. As noted previously, two-thirds of high utilizing children have a special health care need, but only about one-quarter of CSHCN have expenditures in the top five percent. Thus, there is considerable heterogeneity in service use and expenditures among CSHCN. Nonetheless, the median annual expenditure for CSHCN is five times higher than that for other children (\$388). Among those using services, the median expenditure for CSHCN is four times the median for other children.

As was previously observed for high utilizing children, CSHCN have greater use of services and higher expenditures than other children across all categories of service. Eight percent of CSHCN have an inpatient admission, but less than 1% of other children. Among those with an inpatient admission expenditures are almost 50% higher for CSHCN, reflecting their greater number of admissions and longer lengths of stay (data not shown). While this suggests a somewhat greater level of morbidity for CSHCN, the differential is not nearly as great as the observed for high utilizing children compared to other children.

For ambulatory services, FY2005 median expenditure for CSHCN with visits is \$960 and only \$287 for other children, and the ambulatory care visit rate that is three times higher for CSHCN (data not shown). When stratified by type of ambulatory setting, there is a consistent pattern whereby CSHCN are more likely than other children to use each type of service, have a greater number of visits, and have higher expenditures for the service. Most notably, 40% of CSHCN see a mental health provider compared to less than 2% of other children. The mental health provider utilization rate for CSHCN is even higher than that for high utilizing children (30%). This is consistent with the high prevalence of behavioral health disorders in CSHCN shown in Table 1.

More than 40% of all CSHCN have an emergency department visit, in contrast to less than 30% of other children. CSHCN have about a 33% higher median expenditure for emergency

room care in comparison with other children. CSHCN are more likely than other children to use pharmacy services (94% vs. 67%) and the median expenditure for CSHCN with a prescription is almost seven times higher. Almost 10% of all CSHCN receive home health services, but less than 1% of other children.

Predictive Models

Although children who have high expenditures or special health care needs place substantially higher than average demands on the health care system, these conditions may not persist over time and future expenditures are likely to vary substantially even among these high-risk children. For example, a child that has high expenditures in one year because of an accident or acute illness may revert to average expenditure levels in subsequent years. Indeed, the tendency of people with high health care expenditures in one year to regress to the mean in subsequent years has been well-documented. Although we expect special health care needs, which we have defined based largely on chronic conditions, to be more persistent over time, there is substantial expenditure variation in this population. We examined the results from prospective risk adjustment modeling to determine whether children like to have high future expenditures could be identified.

As shown in Table 3, children who had expenditures in the top 5% or who had special health care needs in FY2004 are substantially more likely to remain in those categories in FY2005 than the average child enrolled in TRICARE Prime. Thirty-eight percent of children identified as high utilizers in FY2004 are also identified as high utilizers in FY2005, compared to 5% of all children. Sixty percent of children identified as having special health care needs in FY2004 are still identified as having special health care needs in FY2005 compared to 14% of all children. Greater persistence in having special health care needs than in having high expenditures from year to year reflects the use of chronic conditions to identify a child as having special health care needs. Indeed, an even higher persistence in special health care needs status might have been expected. This finding suggests that claims data may have limitations in identifying chronic medical conditions, particularly if some children have additional sources of insurance that they may use to access care.

While the persistence of high utilizer and CSCHN status over time suggests that these categories may help identify children that will have high costs in the future, there is likely substantial variation in their future costs. Although children who have high utilization in the past are at elevated risk of having high utilization in the future, most of them (62%) did not have expenditures in the top 5% in the following year. Indeed, for children identified as high utilizers in FY2004, the median annual expenditure in FY2005 was only \$2,688 (Table 4), less than half the median expenditure for these children in FY2004 (\$6,259). Although there is less difference in the median expenditure for CSHCN across years (\$1,524 in FY2005 compared to \$2,035 in FY2004), as noted previously, there is considerable variation in the costliness of CSCHN.

We used the DxCG risk adjustment model to assign children to groups (ADCGs) based on prospectively predicted future costs and looked at whether these groups can identify children who are most likely to have high costs in the future. For both children identified as having high utilization and as having special health care needs, actual utilization in the following year varies substantially by prospective ADCG score. Children in the highest ADCG groups have the highest mean and median total expenditures in the subsequent year and average expenditures in FY2005 increase monotonically with ADCG score. Children in higher ADCG categories also are

more likely to have costs in the top 5% of children in FY2005, and are more likely to be identified as having special health care needs in FY2005. However, a relatively small proportion of children categorized as having high utilization or special health care needs in FY2004 seem to be at risk of high future expenditures in FY2005. About two-thirds of high utilizing children and over 80% of CSHCN fall in the lowest two ADCG groups and, even within these high-risk groups, children in the lowest ADCG categories have future utilization that is fairly close to average for all children.

Among children that were categorized as having high utilization in FY2004, 80% of those in the highest ADCG group still had expenditures in the top 5% in the following year, compared to only 30% and 13% in the lowest two ADCG groups. And only 13% of those in the lowest group were classified as having special health care needs in FY2005, compared to 55% of all children identified as high utilizers in FY2004. Among children identified as having special health care needs in FY2004, 77% of those in the highest ADCG group had expenditures in the top 5% in FY2005, compared to 20% of all CSHCN in FY2004 and 15% or less of those in the lowest two ADCG groups. Almost 90% of CSHCN in the highest ADCG group continued to be classified as having a special health care need, compared to less than 60% of children in the lowest groups.

We also found that risk scores are powerful predictors of future utilization for children generally (data not shown). The mean FY2005 expenditures of children in the top 5 percentiles of DCG scores are at least 2.75 times higher than average for all children, and their median expenditures are at least 4 times higher than the median for all children. Children in the top 5 percentiles of DCG scores are 4 times or more likely than other children to be high utilizers in FY2005 and three times or more likely to have special health care needs.

Discussion

Our findings show that CSHCN and high utilizing children have consistent patterns of high utilization and are responsible for substantial expenditures in the MHS. On average CSHCN have lower expenditures than children we characterized as high utilizers (those with expenditures in the top 5% of the population) and less than one-quarter of CSHCN are also classified as high utilizers. However, CSHCN comprise a larger share of the pediatric population and, therefore, pose a substantial cost burden. Based on diagnostic information available in claims data, 14% of children under age 18 enrolled in TRICARE Prime are identified as having special health care needs. This is substantially lower than the rate of 23% reported in a previous study of CSHCN in the MHS that used a survey-based screener to identify CSHCN (Williams et al., 2004). However, 9% of the children in that study met the criteria for CSHCN status only because their parents reported that they used prescribed medicines. Our criteria for identifying CSHCN did not incorporate prescription drug use. After excluding these children our claims-based estimate is similar to the number estimated from the survey-based screener.

CSHCN and, especially high utilizing children, have elevated expenditures for all categories of service, including both inpatient and ambulatory. High utilization rates for mental health provider services reflect the prevalence of psychiatric and behavioral diagnoses in both the population of high utilizing children and CSHCN. Even more noteworthy is the high likelihood of using emergency department services, particularly among high utilizers. Seventy

percent of high utilizing children had at least one emergency department during the year. While the rate among CSHCN is substantially lower (42%), the rates for both groups suggest that these children may have inadequate access to office- and clinic-based care. However even the rate for children not classified as high utilizers or as having special health care needs (27%) substantially exceeds the rate of 11-12% reported for a nationally representative sample of privately insured children (Simpson et al., 2005). Thus inadequate access of ambulatory care services may be a pervasive problem for children in the MHS, the effects of which are magnified for high utilizers and CSHCN.

High utilizing children and CSHCN are also more likely than other children in the MHS to have high expenditures and utilization in the future. Thirty-eight percent of children identified as high utilizers in FY2004 are also identified as high utilizers in FY2005 compared to 5% of all children. Sixty percent of children identified as having special health care needs in FY2004 are identified as having special health care needs in FY2005 compared to 14% of all children. That more children do not persist in being categorized as having special health care needs suggests limitations in using claims data to identify CSHCN. Since the conditions that are used to identify CSHCN are mostly chronic conditions, we expect that most children would be categorized as having special health care needs in both years. Although a child might continue to have the condition the identified him as having a special health care need, he might not have a claim for service with that diagnosis during the year, in which case the child is not recognized as having a special health care need in that year. Alternatively, the lower than expected percentage of children identified as having these conditions in both years may reflect usage of other health insurance for their care in one or the other year.

The persistence of these utilization and expenditure patterns over time suggests that there may be opportunities for intervention to manage future health care cost and use, and these categories can help identify children that can benefit from intervention. Nonetheless, there is considerable variation in future health care expenditures among children identified as high utilizers or as having special health care needs in the past and there is a tendency for those with high expenses to regress to the mean in future years. Even within groups of children that had high costs in the past, some have future utilization that is close to average. Tools that identify children within these populations that are most likely to have high future expenditures can be valuable for refining interventions so they can be used in the most cost-effective manner.

We looked at the power of a prospective risk adjustment model, DCGs, to identify those children most likely to have high costs in subsequent years. These analyses show that FY2004 prospective DCG scores are strong predictors of health care costs in FY2005. For both high utilizers and CSHCN, future (FY2005) expenditures align strongly with the predicted cost of care. Children in higher ADCG categories in FY2004 have higher health care costs in FY2005, are more likely to have costs in the top 5% of children in FY2005, and are more likely to be identified as having special health care needs in FY2005. This pattern of findings also holds within the overall population of children, not only in the high risk groups of CSHCN or children with high utilization in the past.

Tools that identify children within these populations that are most likely to have high future expenditures can be valuable for refining interventions so they can be used in the most cost-effective manner. These findings suggest that risk adjustment models, such as DxCG,

provide such a tool and can prospectively target children within “at-risk” populations who may benefit most from care management and other interventions.

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Table 1. Characteristics of Children Enrolled in TRICARE Prime by High Utilizer and CSHCN Status, FY2005

	High Utilizer		Special Health Care Needs	
	Yes	No	Yes	No
Demographic Characteristics				
Age				
1-4	32	23	17	24
5-14	47	60	64	59
15-15	21	17	19	17
Male	57	51	61	50
Clinical Characteristics				
SHCN	66	11	N/A	N/A
High utilizer	N/A	N/A	24	2
Hyperkinetic syndrome of childhood	16.3	3.8	32.0	0.0
Other behavioral	7.3	0.7	5.7	0.3
Autism	2.9	0.2	2.1	0.0
Other psychiatric	23.1	3.4	30.5	0.2
Developmental delays	8.5	0.6	7.5	0.0
Heart disease	2.4	0.2	1.9	0.0
Congenital anomalies	9.3	0.7	4.6	0.6
Diabetes	2.7	0.1	1.4	0.0
Asthma	19.9	3.6	27.5	0.6
Malignancies	2.0	0.1	1.6	0.0
Number	50,697	963,231	140,690	873,238
% of Children	5	95	14	86

Notes: Numbers are percentage of children in column with a given characteristic. All differences are statistically significant at $p < .0001$.

Source: RTI analysis of TRICARE Prime encounter and claims data, FY2005

Table 2. Health Care Utilization by Children Enrolled in TRICARE Prime by High Utilizer and CSHCN Status, FY2005

	High Utilizer		Special Health Care Needs	
	Yes	No	Yes	No
Total				
Median Total Amount Paid	6,259	451	2,035	388
% of Children with Amount Paid > 0	100.0	87.2	100.0	85.9
Median Total Amount Paid for Children with Expenditures	6,259	562	2,036	492
Inpatient				
% of Children with Admissions	35.6	0.3	8.4	1.1
Median Total Amount Paid for Children with Admissions	5,003	1,699	4,962	3,499
Office/clinic/outpatient department				
% of Children with Visits	99.5	82.8	99.7	81.0
Median Total Amount Paid for Children with Visits	2,554	321	960	287
Primary care				
% of Children with Visits	92.2	69.6	89.5	67.8
Median Total Amount Paid for Children with Visits	609	210	382	199
Specialist				
% of Children with Visits	66.5	16.2	38.4	15.6
Median Total Amount Paid for Children with Visits	568	194	329	198
Mental health				
% of Children with Visits	29.5	5.8	40.1	1.7
Median Total Amount Paid for Children with Visits	837	342	467	155
Emergency department				
% of Children with Services	70.4	27.2	42.0	27.3
Median Total Amount Paid for Children with Services	625	266	362	271
Pharmacy				
% of Children with Prescriptions	97.9	69.1	93.5	66.8
Median Total Amount Paid for Children with Services	546	73	416	62
Home Health				
% of Children with Services	17.1	1.2	8.6	0.9
Median Total Amount Paid for Children with Services	513	158	216	154

Note: Differences are statistically significant at $p < .0001$ for all variables using the signed rank test for medians and t-tests for rates.

Source: RTI analysis of TRICARE Prime encounter and claims data, FY2005

Table 3. Prevalence and Persistence of High Utilization and Special Health Care Needs in Children Enrolled in TRICARE Prime, FY2004–FY2005

	% with Condition in FY2004		% with Condition in FY2005	
	All Children	All Children	All Children	Children with condition in FY2004
High Utilizer	5.0	5.0	5.0	38.3
Special Health Care Needs	13.3	14.3	14.3	59.8

Source: RTI analysis of TRICARE Prime encounter and claims data, FY2004 and FY2005

Table 4. Indicators of Elevated Service Need in FY2005 among FY2004 TRICARE Prime Children with High Utilization or Special Health Care Needs by FY2004 ADCG Category

ADCG Score FY2004	Number of Children	Mean Total Amount Paid FY2005	Median Total Amount Paid FY2005	% High Utilizers in FY2005	% with Special Health Care Needs in FY2005
High Utilizers in FY2004					
All	40,945	6,697	2,688	38.3	55.3
25	1,710	43,721	15,787	80.4	86.8
10	3,989	11,548	5,370	60.8	76.4
5	8,461	6,761	3,715	49.4	67.0
1	25,495	3,669	2,184	29.6	48.2
0	1,290	2,046	714	12.6	13.0
CSHCN in FY2004					
All	108,740	3,652	1,524	19.9	59.8
25	1,768	41,666	14,439	77.4	88.9
10	4,779	10,348	4,462	55.1	79.4
5	11,400	5,765	2,941	41.7	71.0
1	85,194	2,366	1,404	14.8	57.2
0	5,599	1,197	766	4.4	50.0

¹ The Aggregated Diagnostic Cost Group (ADCG) categories place enrollees into five groups by range of (approximate) expected costs, based on the prospective DCG score. The group labeled "0" contains enrollees with expected costs less than \$1,000; "1," those with expected costs of \$1,000 to \$5,000; "5," \$5,000 to \$10,000; "10," \$10,000 to \$25,000; and "25," those with expected costs greater than \$25,000.

² High utilizers are children whose total amount paid during the year is in the top 5% of children.

³ To be classified as having special health care needs, a child must have a diagnosis identified as indicative of special health care needs and must have two visits on separate days with the same diagnosis.

Source: RTI analysis of TRICARE Prime encounter and claims data, FY2004 and FY2005.