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Health care expenditures for Medicaid-covered males with haemophilia in the United States, 2008

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Summary

Although haemophilia is an expensive disorder, no studies have estimated health care costs for Americans with haemophilia enrolled in Medicaid as distinct from those with employer-sponsored insurance (ESI). The objective of this study is to provide information on health care utilization and expenditures for publicly insured people with haemophilia in the United States in comparison with people with haemophilia who have ESI. Data from the MarketScan® Medicaid Multi-State, Commercial and Medicare Supplemental databases were used for the period 2004–2008 to identify cases of haemophilia and to estimate medical expenditures during 2008. A total of 511 Medicaid-enrolled males with haemophilia were identified, 435 of whom were enrolled in Medicaid for at least 11 months during 2008. Most people with haemophilia qualified for Medicaid based on 'disability'. Average Medicaid expenditures in 2008 were $142,987 [median, $46,737], similar to findings for people with ESI. Average costs for males with haemophilia A and an inhibitor were 3.6 times higher than those for individuals without an inhibitor. Average costs for 56 adult Medicaid enrollees with HCV or HIV infection were not statistically different from those for adults without the infection, but median costs were 1.6 times higher for those treated for blood-borne infections. Haemophilia treatment can lead to high costs for payers. Further research is needed to understand the effects of public health insurance on haemophilia care and expenditures, to evaluate treatment strategies and to implement strategies that may improve outcomes and reduce costs of care.

Keywords

claims data; cost of care; employer-sponsored insurance; health care utilization; inhibitor; Medicaid

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Introduction

People with haemophilia often require life-long treatment with expensive factor concentrates. Complications such as undergoing immune tolerance for an inhibitor, major surgery and HIV/AIDS and/or hepatitis treatments can increase the costs of medical care still further. The public (or government) sector is particularly affected: 30–40% of male patients with haemophilia were covered by Medicare or Medicaid [1–3] and almost two-thirds of hospital stays with a principal diagnosis of haemophilia during 2008 were covered by Medicaid or Medicare (authors' finding using HCUP-Net [4]). The percentage of haemophilia hospital care costs borne by Medicaid and Medicare is much greater than the percentage of the population with haemophilia that they cover because high users of health care are more likely to be insured by public payers. In 2008, Medicaid and Medicare covered 28% of the US population, [5] but were responsible for 58% of all hospital bills [4].

To date, no studies have examined the utilization of health care services and expenditures for people with haemophilia who were enrolled in Medicaid or compared them with people with employer-sponsored insurance (ESI). Considering the high cost of haemophilia treatment and pressures to achieve cost savings, it is important to have a better understanding of health care utilization and costs for Medicaid enrollees with haemophilia.

The study objectives are to provide information on health care utilization and expenditures of health care for males with haemophilia who were insured by state Medicaid or Children's Health Insurance Program (CHIP) in 2008 and to compare costs with parallel findings for male patients with haemophilia covered by ESI, including people enrolled in Medicare with employer-paid Medigap plans [6]. In addition, to overall comparisons, this study reports differences in health care use and expenditures associated with treatment of an inhibitor using a bypassing agent or by infection with HIV and/or HCV, groups reported to have elevated costs. We also report prevalence estimates both overall and on basis of Medicaid eligibility.

Methods

Data

The data for this study were obtained from the MarketScan® Medicaid Multi-State databases (Thomson Reuters, Inc., New York, NY, USA) for the period 2004–2008. In 2008, the Medicaid database covered approximately 5.7 million enrollees who qualify for either Medicaid or CHIP in 10 unidentified states. The database does not distinguish whether children qualify for CHIP or Medicaid. The database provides information on medical costs, as well as demographic information on gender, age, race and annual enrolment, for people with a unique identification code that allows tracking of individuals over time. Most of the data features of the Medicaid database are the same as those of the MarketScan Commercial and Medicare Supplemental and COB databases we used for a parallel study whose results are reported here for comparison purposes [6].

Sample selection criteria

Figure 1 presents the process used to identify individuals with haemophilia using three types of medical codes: (i) the International Classification of Disease, Ninth Revision, Clinical Modification code (ICD-9-CM); (ii) the Healthcare Common Procedure Coding System; and (iii) the National Drug Code using the same criteria employed in a parallel study of individuals with ESI [6]. Individuals with an ICD-9-CM code of 286.0 or 286.1 reported in at least one inpatient claim or two outpatient claims during 2008 were included if they also had a haemophilia procedure code or drug code during 2004–2008 and were male patients. Roughly one-third of those that met these criteria were female patients; female patients were excluded.

We established six risk groups according to age, type of haemophilia, treatment of an inhibitor with bypassing agents (hereafter referred to as individuals with inhibitors) and infection with HIV or HCV, using the same codes as in the parallel study [6]: (i) children (age <18 years) with haemophilia A and inhibitors; (ii) children with haemophilia A without inhibitors; (iii) children with haemophilia B; (iv) adults with haemophilia A with inhibitors; (v) adults with haemophilia A or B and blood-borne viral infection without inhibitors; and (vi) adults with haemophilia A or B without infection or inhibitors.

Medicaid eligibility criteria

Medicaid covers certain groups of people who also meet Medicaid income and asset criteria, which can vary by state [7]: children, adult parents of dependent children, pregnant women and elderly people needing nursing home care. Many people with haemophilia are eligible without meeting Medicaid criteria because they qualify for Social Security disability benefits under supplemental security income (SSI) criteria, which differ. Adults with inherited coagulation defects who (i) have experienced spontaneous haemorrhage requiring transfusion at least three times during the 5 months prior to adjudication, and (ii) meet SSI income and asset criteria may qualify for SSI disability benefits. Children with haemophilia may be eligible for SSI if they (i) have repeated spontaneous or inappropriate bleeding, or have hemarthrosis with joint deformity, and (ii) meet SSI income and asset criteria [8].

In this analysis, those identified by both disability and poverty codes in the detailed enrolment file were classified under poverty, which was considered their primary basis of eligibility; so were individuals whose eligibility was recorded as ‘unknown.’ Fourteen per cent of all people in the Medicaid database had ‘unknown’ eligibility, compared with 9% of people with haemophilia.

Outcome measures

For the purpose of estimating prevalence, all people in the MarketScan Medicaid database during 2008 were included. The prevalence of haemophilia was estimated separately by the two major Medicaid eligibility criteria – poverty or disability, as defined above. The poverty eligibility group represents the standard Medicaid population without enrichment based on disability.

For analyses of health care utilization and expenditures, the sample was further restricted to those with at least 11 months of coverage during 2008. We examined various components of hospital health care utilization, including the number of inpatient admissions and emergency department (ED) visits, the proportion of people who had inpatient admissions and ED visits, and the proportion of people who received factor concentrates by risk group.

Health care expenditures were defined as the sum of government payments and individual out-of-pocket expenses and presented in 2008 dollars. We reported the mean and median estimates of health care expenditures by study group. We also provided significance tests for group differences in mean and median estimates, *t*-test and Wilcoxon tests, respectively.

To calculate total clotting factor expenditures, clotting factor procedure claims from the inpatient and outpatient files were combined with outpatient drug claims. Factor expenditures may include the expenditure of in-hospital administration. They also include expenditures for both factor concentrates and bypassing agents.

Results

All persons with haemophilia

Of the 2.4 million male patients who were included in the 2008 MarketScan Medicaid database, 511 were identified as having haemophilia. The prevalence of haemophilia based on claims data was 2.2 per 10 000 publicly insured males. The prevalence was significantly different by Medicaid eligibility criteria: 7.3 and 1.2 per 10 000 based on disability and poverty criteria, respectively. Among 1 422 677 male patients who were covered for at least 11 months in 2008, 80% qualified because of poverty and 20% because of disability. In contrast, among 435 with haemophilia, just 43% qualified because of poverty and 57% because of disability. Although adult male patients in the whole Medicaid sample equally qualified for Medicaid because of poverty (50%) and disability (50%), adults with haemophilia predominantly qualified because of disability (85%). Although most (94%) children in the Medicaid database qualified for coverage because of poverty, children with haemophilia qualified almost equally because of poverty (58%) and disability (42%).

Of 435 male patients with haemophilia who were covered for at least 11 months in 2008, 85% (n = 370) had haemophilia A and 15% (n = 65) had haemophilia B (Table 1). A total of 27 people (7% of the 370 with haemophilia A) were identified as having an inhibitor to factor VIII based on their use of bypassing agents. Individuals with haemophilia A were slightly more likely to have an inhibitor if they qualified due to poverty (11% of adults and 7% of children) than if they qualified based on disability (8% and 6%, respectively).

Annual expenditures for people with haemophilia averaged $142,987 in 2008 (Table 2). The median expenditure for the average or typical person with haemophilia was $46,737 (for additional information on annual costs of care by race, see Table S1). On average, those with haemophilia A incurred more costs ($148,215 [median $49,109]) for health care than those with haemophilia B ($113,223 [median $34,040]).

Among male patients with haemophilia A, average annual total costs for those with an inhibitor were 3.6 times higher than total costs for those without an inhibitor ($446,945 vs. $124,700; $P < 0.01$). Similarly, median expenditures for people with an inhibitor were 4.2 times higher relative to people with an inhibitor ($194,542 vs. $46,737, $P < 0.05$). Most of the expenditures were due to clotting factor, including bypassing agents, which averaged 2.7 times higher among people with an inhibitor ($287,245 vs. $106,807, $P < 0.01$), and the median clotting factor expenditure was 2.6 times higher ($64,768 vs. $24,852, not significant). Clotting factor accounted for 64% of total costs for people with an inhibitor, compared with 86% for people without an inhibitor. The difference in total expenditures between those with inhibitors and those without inhibitors was accounted for in large part by expenditures for other drugs and inpatient care (34% and 11% for people with and without an inhibitor, respectively).

Annual average costs were lower for children than adults ($113,867 vs. $194,549, respectively, $P < 0.01$). The difference in median costs between children and adults was proportionately even larger ($31,067 vs. $73,291, $P < 0.01$). Figure 2 presents mean expenditures for people with public insurance by 10-year age group (for additional information on annual costs of care for people without an inhibitor by blood-borne viral infection, see Figure S1). Costs were highest for adults aged 20–29 years.

Children with haemophilia

Among 278 children, 87% had haemophilia A of whom 6% had an inhibitor during 2008 (Table 3). All boys with an inhibitor received clotting factor (by definition), as did 81% of those without an inhibitor. A higher proportion of children with an inhibitor had inpatient care services (50% vs. 15%, $P < 0.01$) and ED visits (81% vs. 53%, $P < 0.05$) in 2008, compared with those without an inhibitor. Among children with at least one ED visit during 2008, those with an inhibitor visited ED an average of four times, whereas those without an inhibitor visited ED three times on average ($P < 0.05$). Among children without an inhibitor, there was no significant difference in the proportion of children who received inpatient care services or visited ED and the number of ED visits by type of haemophilia (A or B). A higher proportion of children with haemophilia B received clotting factor than did children with haemophilia A (94% vs. 81%, $P < 0.05$).

The average annual expenditure for children with an inhibitor was $509,778 in 2008, 6.1 times higher than that for children without an inhibitor ($83,765, $P < 0.01$). Median costs were 2.3 times higher for the inhibitor group ($55,038 vs. $23,697). Mean and median costs associated with haemophilia A in the absence of an inhibitor ($83,981 [median $23,697]) were lower than for those with haemophilia B ($125,522 [median $49,521], $P > 0.05$), but the difference was not statistically significant.

Adults with haemophilia

Among 157 adults with haemophilia, 56 (36%) were treated for HIV or HCV and 11 (7%) were treated for an inhibitor (Table 4). Adults with HIV or HCV infection were on average 10 years older than those without a claims record of infection ($P < 0.01$). Almost all of them (54/56) were >30 years. A higher percentage of adults with an inhibitor had inpatient

admission than adults without an inhibitor, but with blood-borne infection (45% vs. 13%, $P < 0.01$). However, the number of ED visits, the proportion of patients who visited EDs, and the proportion of patients who received clotting factors did not significantly differ by inhibitor or blood-borne viral infection status.

The average costs for adults were roughly twice as high among those treated with bypassing agents for inhibitors, $355,552 vs. $184,765, and median costs were more than five times higher, $344,607 vs. $62,785. In contrast, there was virtually no difference in mean costs by blood-borne viral infection status ($184,765 vs. $178,648, for further information on annual costs by components of health care for three different blood-borne viral infection groups see Figure S2). On the other hand, median costs were substantially lower for the group without HIV or HCV infections ($62,785 vs. $101,446, not significant).

Discussion

The annual mean [median] expenditures for health care during 2008 for Medicaid-enrolled males with haemophilia were $142,987 [$46,737]. The average expenditures were lower for Medicaid-enrolled children with haemophilia ($113,867 [median $31,067]) than for adults ($194,549 [median $73,291]). We also found a significant difference in costs for children who were treated for inhibitors and those without an inhibitor. Both annual average and median costs for children with an inhibitor were six times higher than for children without an inhibitor. Among Medicaid-enrolled adults, the differences in mean and median costs by inhibitor development were in the same direction and of the same magnitude for median costs, but were not statistically significant.

Among adult Medicaid enrollees there was essentially no difference in mean costs by blood-borne viral infection status. In comparison, Tencer *et al.*[9] found that the average costs for adults with co-infection of HIV or HCV were 59% greater, although only 8% of the individuals in their database were enrolled in Medicaid. However, the median expenditures in the MarketScan Medicaid sample were 62% higher for those with HIV or HCV, which is similar to the finding of Tencer *et al*.

MarketScan Medicaid and Commercial database findings

The overall prevalence of haemophilia based on claims data was 2.7 times higher among Medicaid enrollees than among ESI enrollees (2.2 vs. 0.8 per 10 000 males). The high prevalence of haemophilia among Medicaid enrollees who qualified on the basis of disability was responsible for this difference. The prevalence of Medicaid enrollees based on the poverty criterion is similar to that among people with ESI (1.2 vs. 0.8 per 10 000 males); whereas the prevalence among those who qualified based on ‘disability’ was roughly nine times higher (7.3 vs. 0.8 per 10 000 male patients). The higher prevalence in the Medicaid sample with poverty eligibility reflects the fact that this group is almost exclusively comprised of children; the comparable prevalence for children in the ESI sample was 1.4 per 10 000 male patients [6].

A higher percentage of people with haemophilia enrolled in Medicaid were being treated for an inhibitor: 7%, relative to 3% in the ESI sample (Table 5). A higher proportion of people

with acute and/or severe conditions have been observed among Medicaid enrollees than in the general US population, which is attributed to the fact that selection for the program is based on existing health problems or low-socioeconomic status and to differences in access to medical care once people are enrolled [1,10–12]. However, there was no significant difference in the percentage of adults with HIV or HCV infection by type of insurance (36% and 34% among Medicaid enrollees and ESI enrollees respectively).

The rate of hospital-based care utilization was higher for Medicaid enrollees with haemophilia than for ESI enrollees (Table 5). More Medicaid enrollees were admitted to the hospital and the ED than people with ESI. They were also more frequently admitted to the hospital, but not the ED, conditional on having at least one such encounter.

The average annual expenditures for health care were similar for the Medicaid and ESI samples, $142,987 and $155,136 respectively (Table 5). Only two study groups statistically showed expenditure differences by type of payer: children without an inhibitor and adults without blood-borne viral infection. The average annual costs for children enrolled in Medicaid without an inhibitor were 0.6 times lower ($P < 0.01$) and the average annual costs for adults enrolled in Medicaid without blood-borne viral infection were 1.5 times higher ($P < 0.05$) than those for each comparison group.

Most of the limitations of this study are inherent in claims data: non-representativeness, under-ascertainment of those with mild symptoms and understatement of costs for people who have coverage under multiple insurance plans [6]. As people are in the database only if they remain in the same health plan, we are not able to track patterns of insurance switching over time. In addition, there are limitations specific to the MarketScan Medicaid data. The Medicaid sample covers ten unidentified states; we were unable to examine how eligibility requirements for covered services affected utilization and expenditures by state [13].

Conclusions

In conclusion, the annual health care expenditures of Medicaid enrollees with haemophilia were similar to those of people with ESI. The development of an inhibitor substantially increased Medicaid expenditures for children in terms of both mean and median expenditures and for adults in terms of median expenditures, although among adults the increase in mean expenditures associated with treatment for an inhibitor was smaller and not statistically significant. Among adults in Medicaid, blood-borne viral infection was not significantly associated with mean expenditures, but was associated with higher median expenditures.

This is the first published study that examined the health care utilization and expenditures of people with haemophilia enrolled in Medicaid. This study finds that in comparison with people with ESI, Medicaid-enrolled people with haemophilia have similar average expenditures for health care. However, similar overall expenditures mask greater utilization of hospital-based health care by Medicaid enrollees. The lack of difference in annual expenditures could be due to lower Medicaid reimbursements for services received.

Further research is needed to understand the effect of insurance type on haemophilia care as opposed to difference in care utilization that reflect differences in the types of people enrolled in different types of health insurance. For example, how does insurance type affect access and use of home infusion therapy or other health care services? What are the differences among payers in the unit costs of health care services such as factor concentrates or bypassing agents? Can administrative claims data be used to evaluate the effectiveness of treatment strategies? Can such findings be used to increase the effectiveness of health care for those with Medicaid coverage as well as reduce the costs to taxpayers of providing what may be suboptimal care for people with haemophilia?

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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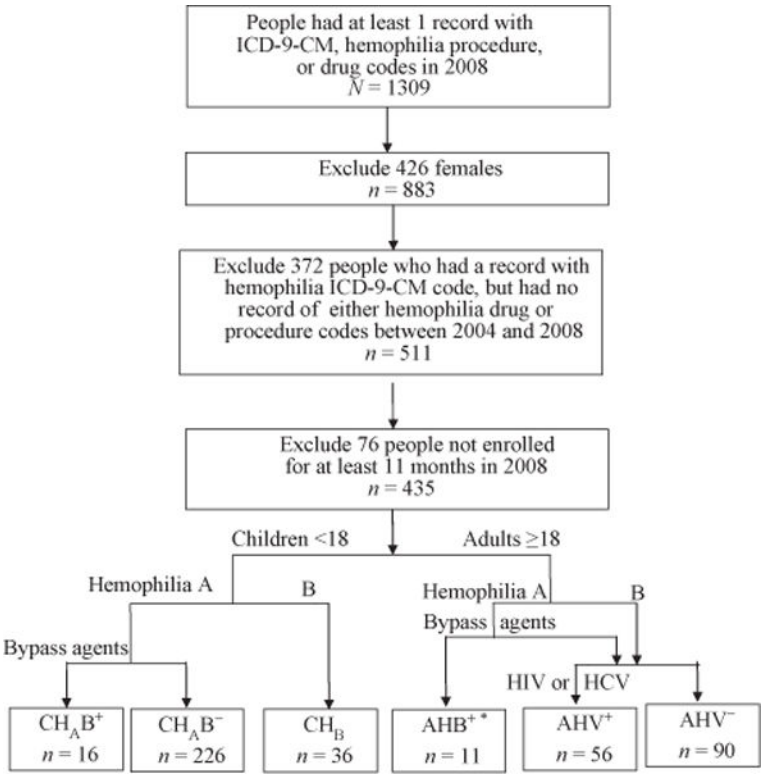

Fig 1.

Flow chart of sample selection. C, child; H_A, haemophilia A; H_B, haemophilia B; B^+, treatment for an inhibitor with bypassing agents; B^-, no treatment for an inhibitor with bypassing agents; A, adult; H, haemophilia; V^+, with blood-borne viral infection; V^-, without blood-borne viral infection. *Five adults with both viral infection and inhibitors were included in the AHB^+ group.

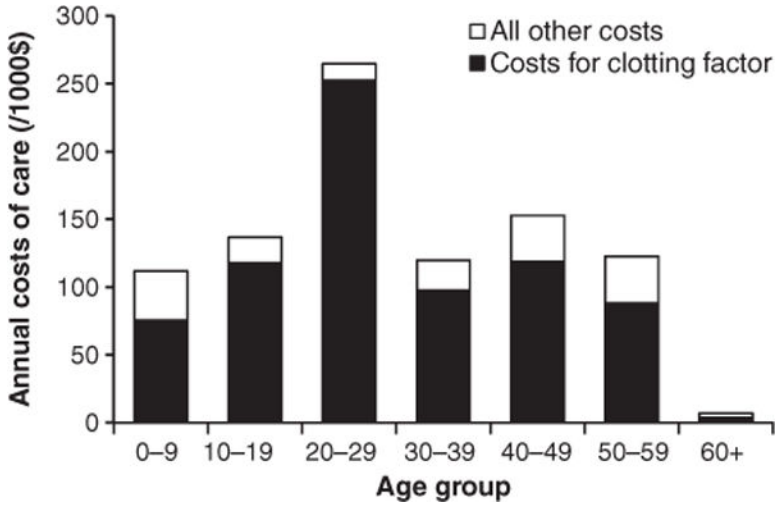

Fig 2.

Annual average health care costs of people with haemophilia who had Medicaid insurance by 10-year age group and type of care (clotting factors and all other costs) in 2008 (*N* = 435).

Table 1

Number of male patients and male patients with haemophilia who enrolled in Medicaid for at least 11 months in 2008 by age group and type of eligibility.

	Total		Poverty*		Disability	
Age group	**Male patients[a]**	**Male patients with haemophilia[p]**	**Male patients[b]**	**Male patients with haemophilia[q]**	**Male patients[c]**	**Male patients with haemophilia[r]**
0–9	602 528	154	576 061	99	26 467	55
10–19	432 587	153	388 811	74	43 776	79
20–29	55 584	56	21 030	4	34 554	52
30–39	50 755	27	18 684	3	32 071	24
40–49	74 138	29	22 850	1	51 288	28
50–59	79 036	12	18 819	2	60 217	10
60–	128 049	4	94 648	3	33 401	1
Adults (%)	436 372 (100%)	157 (100%)	216 361 (50%)	24 (15%)	220 011 (50%)	133 (85%)
Children (%)	986 305 (100%)	278 (100%)	924 542 (94%)	162 (58%)	61 763 (6%)	116 (42%)
Total (%)	1 422 677 (100%)	435 (100%)	1 140 903 (80%)	186 (43%)	281 774 (20%)	249 (57%)

*The category of poverty includes unemployed adult, child of unemployed adult, and foster care child, as well as aged individual, child (neither child of unemployed adult nor foster care child), adult (not based on unemployed status), and eligibility status unknown; a = b + c; p = q + r.

Table 2

Health care utilization and expenditures of male patients with haemophilia by risk group, 2008.

	N	Median	Mean	95th percentile
Health care utilization				
No. of admission w ≥1 admission	95 (22%)	1.0	2.2	6.0
No. of ED visits w ≥1 visit	224 (51%)	2.0	3.3	9.0
Health care expenditures				
All	435	46 737	142 987	547 397
Haemophilia A†	370	49 109‡‡	148 215††	555 314
Haemophilia B†	65	34 040	113 223	463 248
Receiving no bypassing agents‡	343	46 737‡‡*	124 700††**	437 278
Clotting factor§	343	24 852‡‡	106 807††**	416 158
Receiving bypassing agents‡	27	194 542	446 945	1 656 753
Clotting factor§	27	64 768	287 245	1 068 799
Child¶	278	31 067‡‡**	113 867††**	416 466
Adult¶	157	73 291	194 549	667 367

*and

**represent a 5% and a 1% level of significance, respectively.

†Statistical tests examine the null hypothesis that people with haemophilia A have the same costs of care as people with haemophilia B.

‡Statistical tests examine the null hypothesis that people who receive bypassing agents have the same costs of care as people who do not receive bypassing agents.

§Statistical tests examine the null hypothesis that the costs of clotting factor for people who receive bypassing agents are the same as those for people who do not receive bypassing agents.

¶Statistical tests examine the null hypothesis that children have the same costs of care as adults.

††*t*-test.

‡‡Wilcoxon–Mann–Whitney test.

ED, emergency department.

Table 3

Characteristics of children with haemophilia by risk group, 2008.

Children	Haemophilia A		Haemophilia B (CH_B)[§]
	Receiving no bypassing agents (CH_AB^-)[†]	Receiving bypassing agents (CH_AB^+)[‡]	
No. of children	226	16	36
Age (mean)	9	9[¶]	9
Clotting factor			
No. of people (%)	182 (81)	16 (100)[‡‡*]	34 (94)[††*]
Emergency department (ED) visits			
No. of people (%)	119 (53)	13 (81)[††*]	18 (50)[††]
Frequency among ED visitors	2.7	4.0[¶*]	2.8[¶]
Type of care: *N* (% of people who received each type of care)			
Inpatient	35 (15)	8 (50)[††**]	8 (22)[††]
Prescription	166 (73)	16 (100)[‡‡*]	31 (86)[††]
Total expenditures ($)			
Median	23 697	55 038[§§]	49 521[§§]
Mean	83 981	509 778[¶**]	125 522[¶]
95th percentile	313 309	4 055 362	590 268
Expenditures for clotting factor ($)			
Median	7548	17 102[§§]	27 644[§§*]
Mean	64 282	304 599[¶**]	115 388[¶**]
95th percentile	273 706	2 720 805	573 428

[*] and

[**] represent a 5% and a 1% level of significance, respectively.

[†] Reference.

[‡] Statistical tests examine the null hypothesis that the CH_AB^- group has the same characteristics as the CH_AB^+ group.

[§] Statistical tests examine the null hypothesis that the CH_AB^- group has the same characteristics as the CH_B group.

[¶] *t*-test.

[††] Chi-squared test.

[‡‡] Fisher's exact test.

[§§] Wilcoxon–Mann–Whitney test.

Table 4

Characteristics of adults with haemophilia by risk group, 2008.

	Receiving no bypassing agents		
Adults	**w/o HIV or HCV infection (AHV⁻)†**	**w HIV or HCV infection (AHV⁺)‡**	**Receiving bypassing agents (AHB⁺)§**
No. of adults	90	56	11
HIV only	–	7	–
HCV only	–	27	–
HIV and HCV	–	22	–
Age (mean)	28	38¶**	30¶
Clotting factor			
No. of people (%)	75 (83)	48 (86)††	11 (100)‡‡
Emergency department visits			
No. of people (%)	47 (52)	37 (66)††	9 (82)††
Frequency among ED visitors	2.7	4.5¶	4.7¶
Type of care: *N* (% of people who received each type of care)			
Inpatient	12 (13)	25 (45)††**	7 (64)††**
Prescription	55 (61)	23 (41)††*	8 (73)††
Total expenditures ($)			
Median	62 785	101 446§§	344 607§§
Mean	184 765	178 648¶	355 552¶
95th percentile	774 684	599 417	1 349 718
Expenditures for clotting factor ($)			
Median	56 621	59 627§§	141 898§§
Mean	179 253	150 874¶	262 004¶
95th percentile	773 971	577 120	1 068 799

*and

**represent a 5% and a 1% level of significance, respectively.

†Reference.

§Statistical tests examine the null hypothesis that the AHV^- group has the same characteristics as the AHV^+ group.

‡Statistical tests examine the null hypothesis that the AHB^+ group has the same characteristics as the AHV^- group.

¶*t*-test.

††Chi-squared test.

‡‡Fisher's exact test.

§§Wilcoxon–Mann–Whitney test.

Table 5

Comparisons of health care utilization and health care expenditures by type of payer, 2008.

	Medicaid	Employer-sponsored insurance (ESI) [6]	*P*-value
Health care utilization			
No. of people	1164	435	–
No. of people w an inhibitor (% of haemophilia A)	27 (7%)	30 (3%)	<0.01‡
No. of people with admission (%)	95 (22%)	164 (14%)	<0.01‡
No. of admission w ≥1 admission(s)	2.2 (2.2)	1.4 (1.0)	<0.01†
No. of people with ED visit (%)	224 (51%)	379 (33%)	<0.01‡
No. of ED visits w ≥1 visit (s)	3.3 (4.5)	2.8 (6.4)	0.29†
Health care expenditures (mean[median])			Ratio (Medicaid/ESI)¶ [6]
All	142 987 [46 737]	155 136 [73 548]	0.9† [0.6§**]
Children	113 867 [31 067]	150 680 [72 374]	0.8† [0.4§**]
Haemophilia A			
w/o an inhibitor	83 981 [23 697]	142 057 [73 659]	0.6†**[0.3§**]
w an inhibitor	509 778 [55 038]	831 866 [461 527]	0.6 [0.1§]
Haemophilia B	125 522 [49 521]	92 546 [36 177]	1.4†[1.4§]
Adult	194 549 [73 291]	159 310 [76 088]	1.2†[1.0§]
w/o an inhibitor			
w/o blood-borne viral infection	184 765 [62 785]	125 861 [43 968]	1.5†*[1.4§]
w blood-borne viral infection	178 648 [101 446]	188 056 [116 207]	0.9†[0.9§]
w an inhibitor	355 552 [344 607]	577 640 [176 218]	0.6†[2.0§]

* and

** represent a 5% and a 1% level of significance, respectively.

† *t*-test.

‡ Chi-squared test.

§ Wilcoxon–Mann–Whitney test.

¶ To compare mean and median estimates, we used *t*-tests and Wilcoxon–Mann–Whitney test, respectively.