

Prophylactic treatment in an adult patient with severe hemophilia – effectiveness and costs

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Introduction:

Prophylactic treatment in hemophilia for children today in many countries is state of the art. But most guidelines do not recommend prophylaxis in adults as standard therapy. The majority of adult patients did not have the opportunity of primary prophylaxis in youth. So nowadays they show severe arthropathies with bleedings in multiple joints.

Case report:

It is reported on a 47-year-old patient with a bodyweight of 73 kg and severe hemophilia A (factor VIII activity <2%) who had no primary prophylaxis in his youth. In 2008, 29 bleeding episodes occurred in different joints which caused a 31-day incapacity for work (Fig. 1; Tab. 1). To treat these bleedings 164,000 IU factor VIII concentrate (FVIII) were consumed. This high number of bleedings led to the decision to change treatment protocol from on-demand therapy to prophylaxis. A successful prophylaxis requires a profound knowledge of specific patient and product data. After having analyzed the individual half life of F VIII (8.3 h) and the incremental recovery (2.5), the authors decided to perform treatment with 1000 IU FVIII every other day.

Results:

Under this regimen, an amount of 191,000 IU FVIII was consumed in 2009 in comparison with 164,000 IU in 2008 (Fig. 3). Higher consumption in October and November 2009 was caused by a prophylactic dose escalation during a stay in Asia. This means a total increase of 16% compared with the on-demand therapy. In contrast, the bleeding episodes decreased from 29 to only 4 (86%; Tab. 1). Days of sick leave could be reduced from 31 to 5 (84%; Fig. 2). This 5-day absence was caused by a bleeding into the left ankle joint.

Conclusions:

- In this case, prophylactic treatment could be shown as being effective to prevent bleeding in adults with severe hemophilia, especially when they did not have chance of primary prophylaxis in childhood.
- Prophylaxis is not more expensive than a treatment on demand despite the slightly increased consumption of FVIII.
- Prophylactic treatment may reduce follow-up costs such as loss of working hours and surgery.
- Prophylaxis in adults may improve social situation (i.g. securing employment) and overall quality of life.

References:

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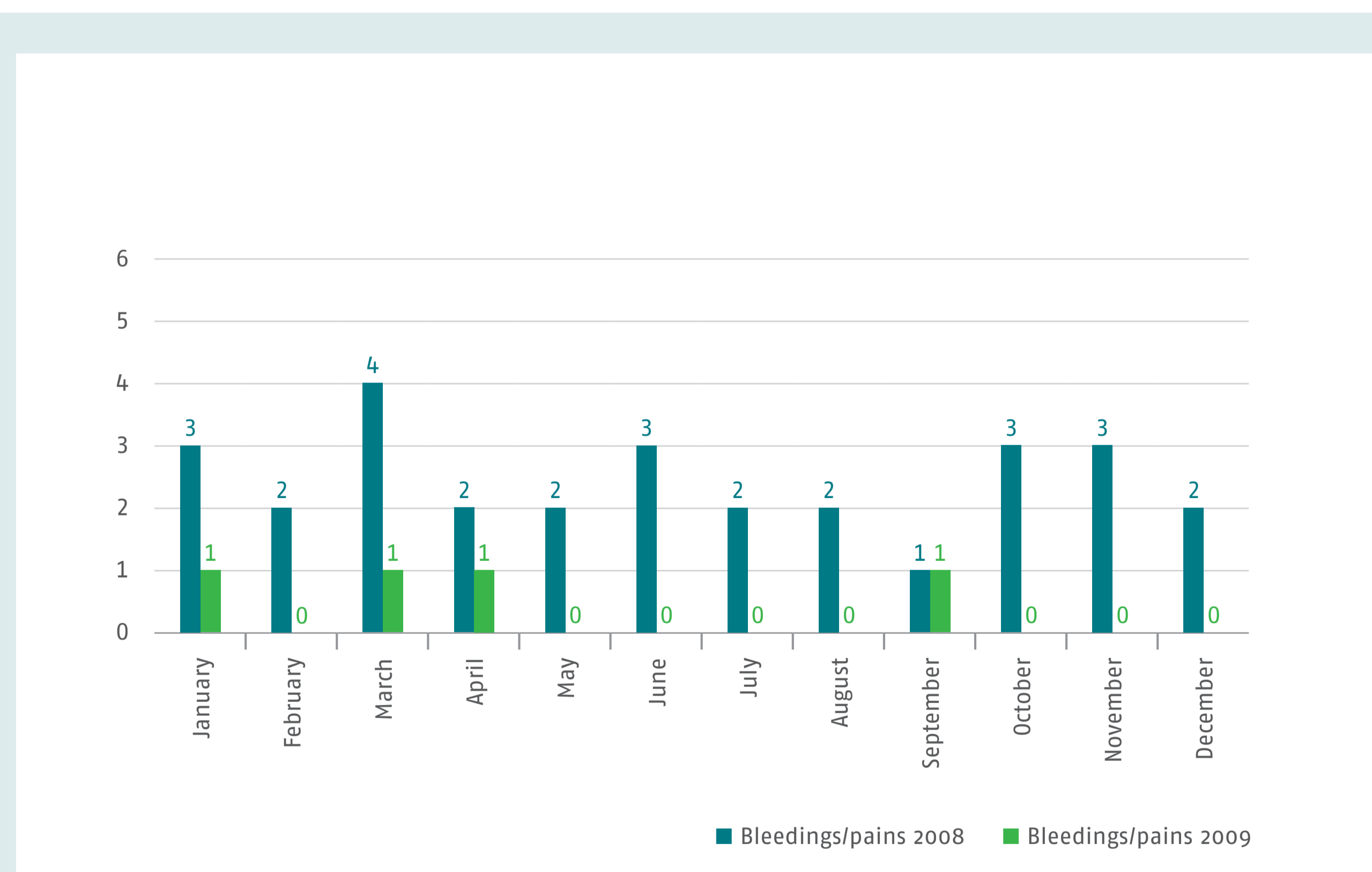


Fig. 1: Compared to on-demand treating, the reduction under prophylaxis was 86%

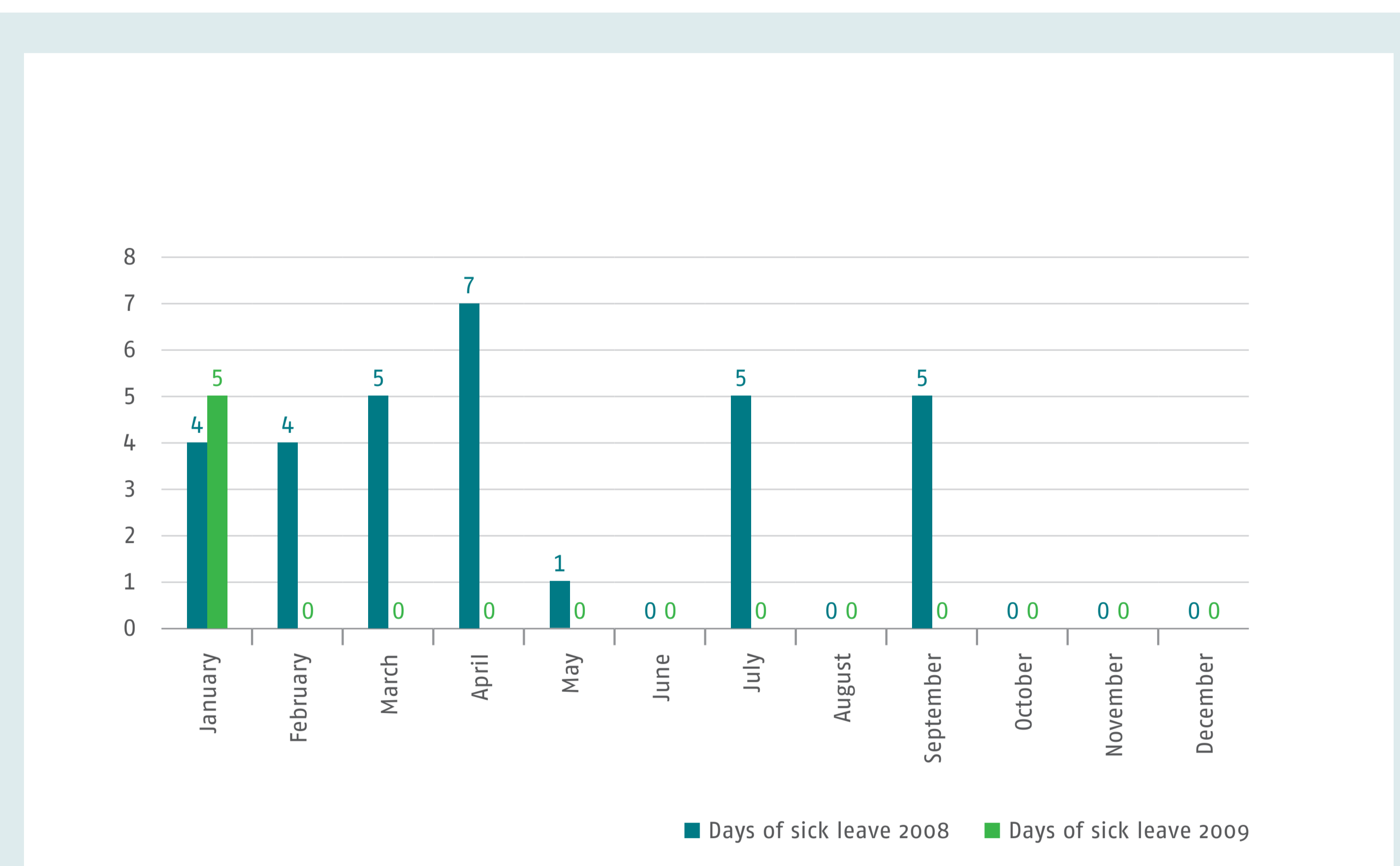


Fig. 2: Days of sick leave compared on-demand therapy versus prophylaxis; the reduction was 84%

Number and kind of Bleedings/pains

	2008	2009
Elbow joint left	10	2
Elbow joint right	5	0
Ankle joint left	8	1
Ankle joint right	2	0
Knee joint left	2	0
Headache ¹	0	1
Other	2	0

Tab. 1: ¹Headache was caused by a collision with a door and requiring a substitution

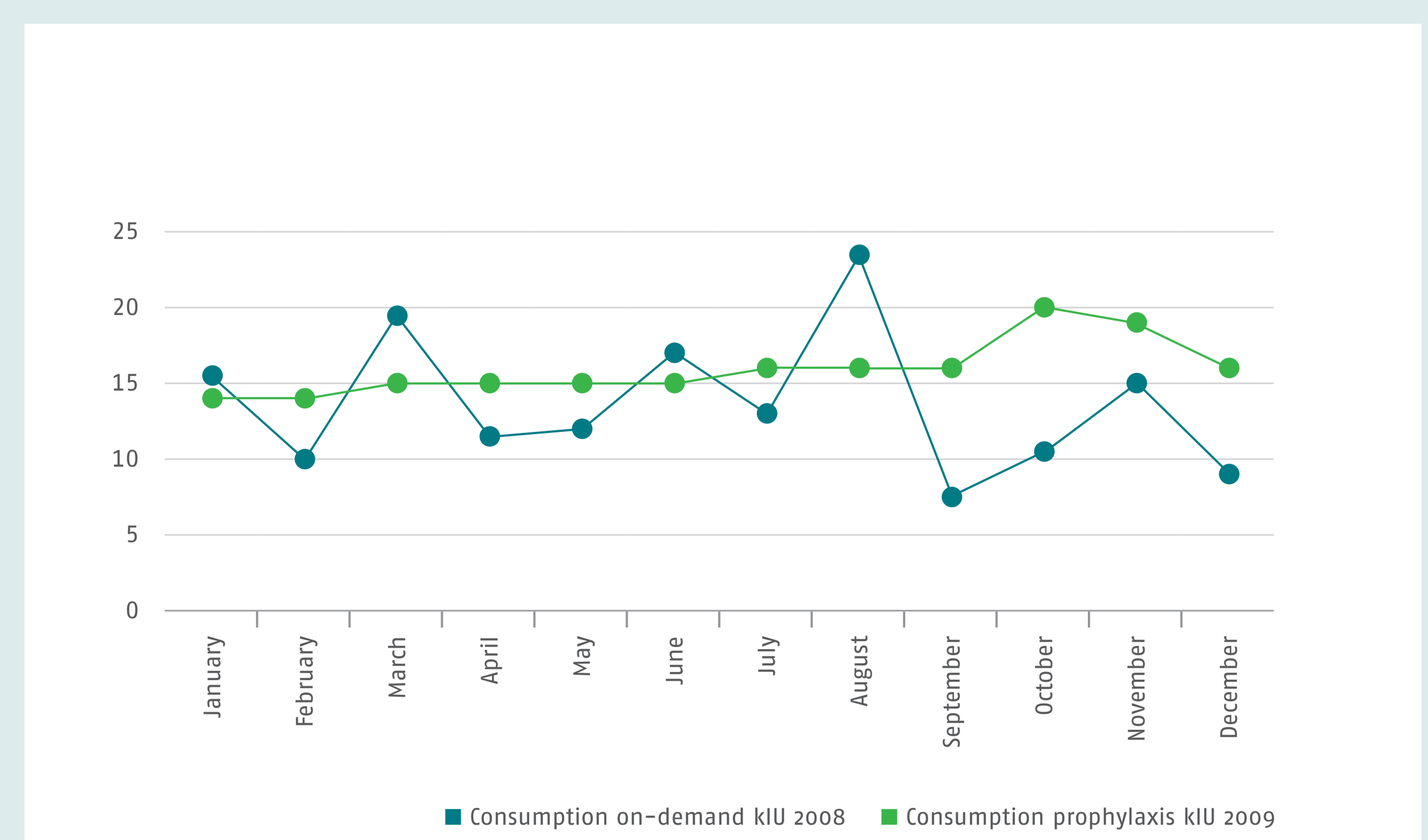


Fig. 3: Consumption of factor VIII concentrate (kIU). Compared to on-demand treatment the consumption under prophylaxis increased by only 16%.