

# THE COSTS OF HEMOPHILIA A: A CROSS-SECTIONAL, MULTICENTER COST-OF-ILLNESS STUDY IN ALGERIA

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## INTRODUCTION:

Hemophilia A is a rare hereditary bleeding disorder caused by a lack of blood clotting FVIII, with high impact on patients’ quality of life. Replacement clotting FVIII treatments are available in Algeria as well as bypassing agents for patients that developed inhibitors (Anti-VIII antibodies). Prophylaxis has been used since 2008 and officially introduced in national treatment guidelines in 2017.

## OBJECTIVES

This study aims to estimate the costs, the clinical consequences and the societal impact of the disease on health care system in Algeria where no economic study was conducted so far.

## METHODS:

A cross-sectional, multicenter cost-of-illness study was carried out in six centers across Algeria (4 hematology centers and 2 pediatric centers) treating adults and children patients with Hemophilia A. The total number of patients included in the study was N = 534, which represents almost 30% of the total diagnosed and treated haemophilia A patients in Algeria. A questionnaire was developed to collect socio-demographic, clinical (e.g. bleed rates), as well as resource utilization data. Drug-related costs (prophylaxis and on-demand) and non-drug costs (lack of productivity, transportation, administration, monitoring) for the patient were estimated for the whole population and compared among groups, categorized by age, weight and inhibitor development. The data was collected and validated by Algerian experts.

| Age       |      | Included | Total* |
|-----------|------|----------|--------|
| < 12 Y    | INH- | 163      | 742    |
|           | INH+ | 26       | 67     |
| 12 - 20 Y | INH- | 95       | 232    |
|           | INH+ | 16       | 20     |
| >20 Y     | INH- | 213      | 698    |
|           | INH+ | 20       | 39     |

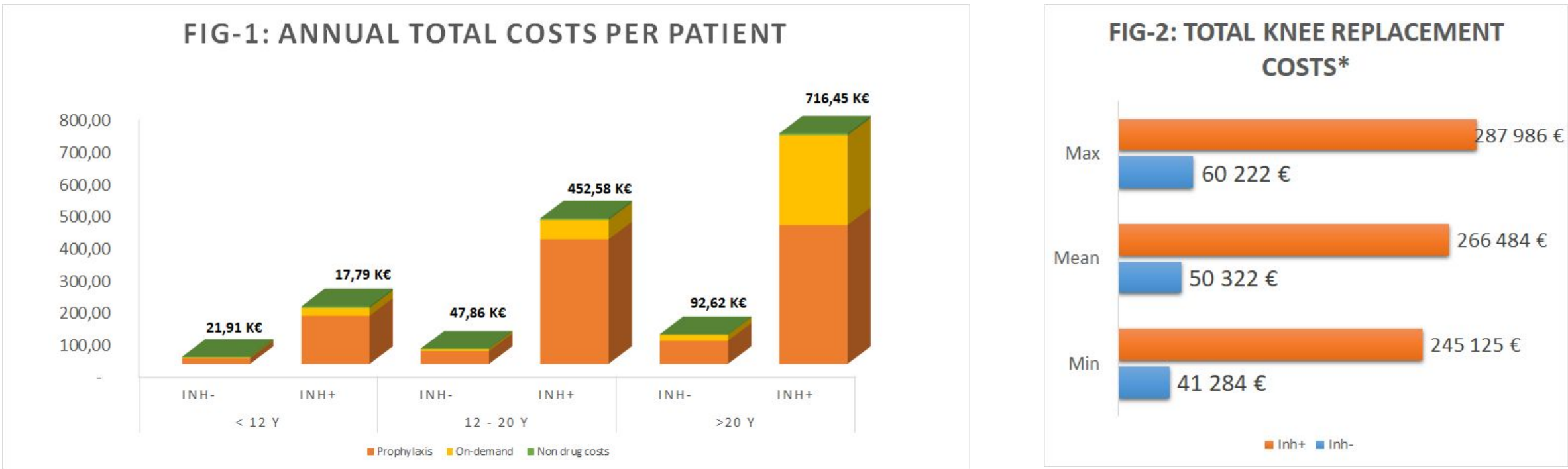
TAB-1: PATIENTS INCLUDED IN THE STUDY

\*IQVIA market research for Roche, 2019

## RESULTS:

The estimated total cost per year in Algeria was € 69 Million for 2020 for the whole estimated patient population with hemophilia A with an average cost per patient about € 94 699. The observed costs per patient are up to eight times higher for patients with inhibitors (449 000 €) vs. without inhibitors (54 130 €). The main cost driver was the cost of the currently used drugs (95% of total costs) as depicted per patient age in figure 1.. The cost does not include costs of orthopedic surgeries which results repetitive joint bleedings. The cost of knee replacement per patients is about 5 times higher for patients with inhibitors (INH+) vs without inhibitors (INH-) as shown in Figure 2.

The quality of life is affected for many patients with disabilities across the country as there is only one hospital able to perform orthopedic surgeries on patients with hemophilia. It has been observed that due to COVID less surgeries have been performed.



\*Only the costs related to the consumption of coagulation factors before and after surgery have been estimated. The other costs (surgical act, operation room, consumables, prosthesis ...etc.) could not be estimated.

## CONCLUSION

The findings confirm that Haemophilia A represents a high economic burden in Algeria for hospital budget, especially in patients developing inhibitors. Prophylaxis is crucial to reduce long-term comorbidities, prevent permanent disabilities, and mitigate overall haemophilia costs. Furthermore, developing specialized infrastructure such as orthopedic surgery centers will improve patient management and quality of life by reducing waiting times and disabilities.

## ACKNOWLEDGEMENT

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