

Evaluation of pharmacoeconomic interventions in neurological patients treated with immunoglobulins

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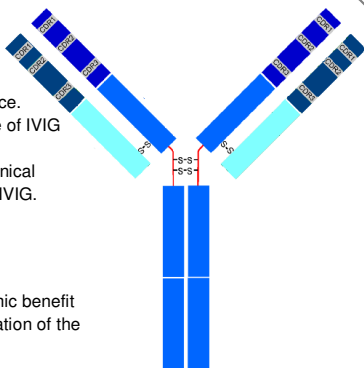
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BACKGROUND

Intravenous immunoglobulins (IVIg) are used in various neurological diseases, sometimes off-label and with different evidence. High treatment costs, the worldwide shortage of IVIg and the special requirements of the German reimbursement system are challenging for clinical pharmacists in controlling the rational use of IVIg.

PURPOSE

The aim of this work is to capture the economic benefit of pharmacists' interventions under consideration of the German reimbursement system.



THE NEW IMPACT OF THIS STUDY

What is already known on this topic?

- Clinical pharmacists' interventions reduce drug related problems including medication errors and drug related events in neurology and in other medical specialities
- Difficulties exist in evaluating an economic benefit of pharmacists' interventions or implemented measures
- So far there are no published data that show an economic benefit of pharmacists' interventions in IVIg-therapy nor in neurology

What does this study add?

- Clinical pharmacists reduce drug costs, increase drug related proceeds and reduce length of stay regarding neurological patients treated with immunoglobulins
- This method can be applied in other case scenarios with high treatment costs or special terms of reimbursement to show an economic benefit of interventions
- Further studies are needed to evolve a less time-consuming method to quantify an economic benefit in all possible scenarios

METHOD

- **Cohort:** 120 patients treated with IVIg in 464 cycles
- **Observation period:** From January 2011 to August 2013
- **Monocenter:** At University Medical Center Hamburg-Eppendorf, Department of Neurology
- **Assessment:** Data were taken from a Computerized Physician Order Entry (ATCHost®, Baxter) and an electronic patient record system (Soarian®, Siemens)
- **Analysis of data:** Retrospective analysis of savings, proceeds and decreased length of stay due to all measures shown in figure 2

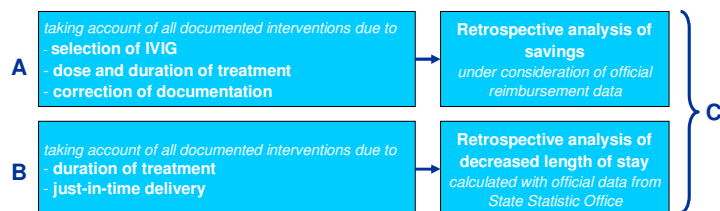


Figure 1 Flowchart showing included and analysed parameters: Retrospective analysis of savings and proceeds (A), decreased length of stay (B) and total amount (C).

Causal nexus of strategic and case-related measures

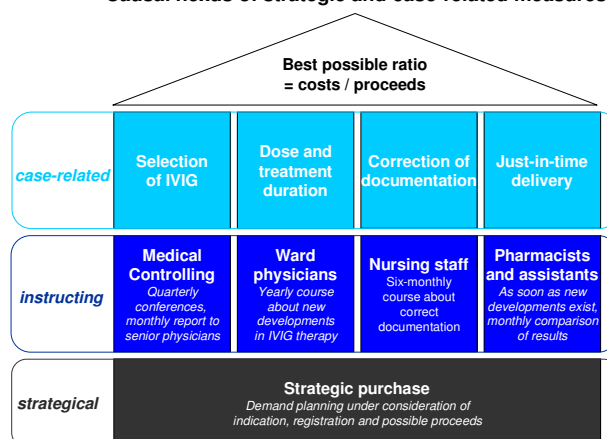


Figure 2 Process diagram showing causal nexus of all interventions. Best possible ratio of costs and proceeds is just achievable if all measures work together.

RESULTS

Effects of clinical pharmacists' interventions (classified in figure 3):

- **368,128 € cost-cutting under consideration of proceeds (A)**
- **234 days decreased length of stay corresponds to 120,510 € (B)**
- **Overall this sums up to an amount of 488,638 € (C)**
- **4,080 € statistical cost savings per patient**

DISCUSSION

To our knowledge this is the first report about the economic benefit of clinical pharmacists' interventions in IVIg-therapy in neurology. This method can be used in future for other drugs with high treatment costs or with special terms of reimbursement. Main deficiency of this method is, that the economic benefit of decreased length of stay is only calculated. However, the biggest savings were achieved by selection of IVIg, interventions to dose and duration of treatment and documentation to ensure best possible proceeds. Based on these results it is important to integrate clinical pharmacists in daily routine on neurological wards.

Classification of realised case-related interventions

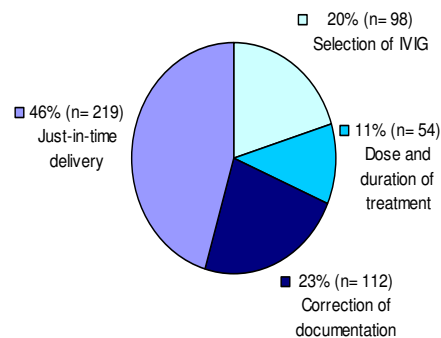


Figure 3 Pie chart showing proportion of realised case-related interventions. Just-in-time delivery is the most common intervention.

CONCLUSION

Clinical pharmacists should be well integrated in daily clinical practice of neurological wards in order to reduce costs, decrease length of stay and increase proceeds.