

# OFF-LABEL PRESCRIPTION OF DRUGS COMPARED TO PRESCRIPTION AFTER LABEL EXTENSION IN CHILDREN FOR GERMANY

Gohlke A, Kostev K, Kuschel A-S  
IQVIA, Real World Evidence, Munich, Germany

## OBJECTIVES

- In Germany off-label prescription of drugs is very common in pediatrics since about 30 % of drugs is not authorized for use in children<sup>1</sup>.
- In 1990 a precedent case determined that drugs should be prescribed according to the international state of knowledge and not according to the authorized therapeutic indication<sup>2</sup>. However, health insurances are not obliged to reimburse such prescriptions and manufacturers are not liable for adverse events.
- This leaves doctors in an uncertain situation regarding regresses and liabilities. Therefore, it was assessed if authorization of previously non-authorized drugs influences their prescription behavior.

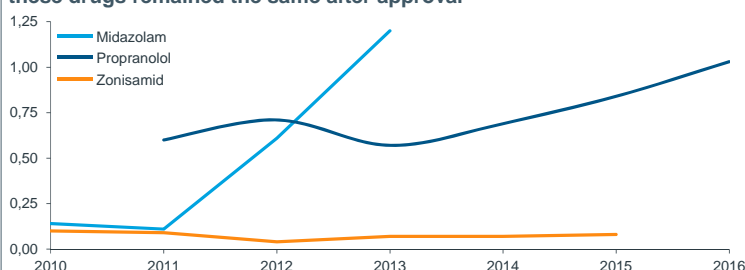
## METHODS

- In order to evaluate a probable increase in pediatric prescriptions of drugs after a label extension or a pediatric-use market authorization (PUMA) for use in children a number of drugs were identified which had been authorized for at least 3 years before the label extension for children and with a minimum follow up period of one year.
- The IQVIA Disease Analyzer (DA) was used to identify the number of prescriptions before and after the label extension or PUMA. The analyzed panels include pediatrics and neurologists who represent the appropriate specialists for the identified drugs.
- Drugs which had been authorized for a different age group in children before were excluded because there is a possible distortion of age of one year in the DA data so that an clear allocation to off-label use is not possible.

## RESULTS

- Several drugs had to be excluded due to too few prescriptions as the underlying diseases are too rare in children, e. g. plaque psoriasis, cancer related conditions as nausea after chemotherapy or prophylaxis of mycosis, juvenile arthritis or even diabetes mellitus type 1 or 2.
- In total 2 PUMA drugs and 1 patented drug could be identified for further analysis. The number of prescription for Midazolam (epilepsy, prolonged, acute, convulsive seizures) and Propranolol (proliferating infantile haemangioma), both PUMA, increased after marketing authorization. In contrast, Zonisamid (epilepsy) remained on the same prescription level. The remaining number of prescriptions for Zonisamid might be due to the fact that there is more than one treatment option in this indication.

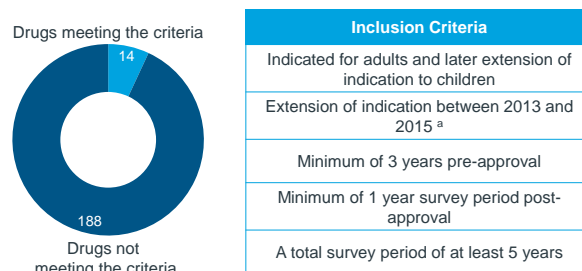
### 4. The number of patients per medical office grew in line with the number of prescriptions. It can be assumed that the number of offices prescribing these drugs remained the same after approval



## CONCLUSIONS

**PUMA seems to influence prescription behavior positively. However, the results are limited by a low overall number of prescriptions due to rare diseases in children. Further studies about off-label prescription in adults would enhance our understanding of this issue.**

### 1. A total of 198 drugs were identified for the use in children; 42 of these drugs had more than one indication



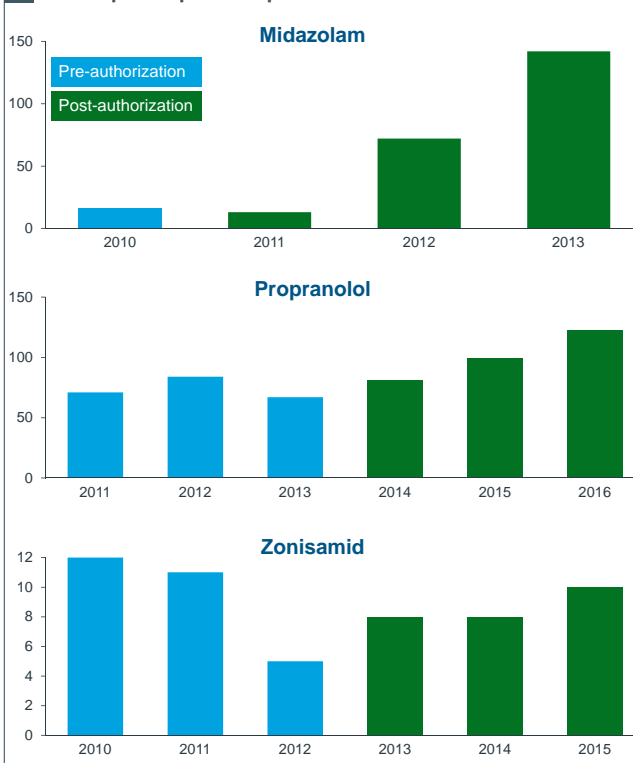
a. The IQVIA Disease Analyzer includes the data of pediatricians or neurologists since 2010

### 2. Prescription data of only 3 drugs could be evaluated

Drugs	Indication	Approval	DA <sup>a</sup>
Midazolam	Seizures	PUMA	2011
Cholic acid	Disturbances of bile acid synthesis	Extension	2013
Natriumphenybutyrat	Chronic hepatitis B infection	Extension	2013
Zonisamid	Urea abolic disorders	Extension	2013
Entecavir	infantile haemangioma	Extension	2014
Paliperidon	Nausea/Vomiting after chemotherapy	Extension	2014
Propranolol	Schizophrenia	PUMA	2014
Travoprost	Skin and soft tissue infections	Extension	2014
Voriconazol	Ococular hypertension or childhood glaucoma	Extension	2014
Palonosetron	Emergency contraception	Extension	2015
Tigecyclin	Plaque psoriasis	Extension	2015
Ulipristalacetat	Prophylaxis of invasive fungal infections	Extension	2015
Ustekinumab	Epilepsy (focal seizures)	Extension	2015
Glycopyrroniumbromid	severe drooling of saliva	PUMA	2016

a. DA data not applicable/ not available

### 3. Prescriptions pre- and post-authorization



Sources:  
1. Kindernetzwerk 2018, Off-Label-Gebrauch im Kindes- und Jugendalter  
2. Aciclovir Urteil OLG Köln 30. 5. 1990 – 27 U 169/87;

Disclosures: All authors are employees of IQVIA (IQVIA Commercial GmbH & Co. OHG)

Poster presented at ISPOR 21<sup>st</sup> Annual European Congress, 10-14 November 2018, in Barcelona, Spain  
Presentation Code: PHP337

Copyright © 2018 IQVIA. All rights reserved.