



# Risk Assessment of Prescribing Errors on Medical Prescriptions in Malta and Germany

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## INTRODUCTION

The medication use process consists of four main stages, namely, the diagnosis, prescribing, dispensing and patient adherence. Medication errors can occur at any of these stages.<sup>1</sup> Errors on a medical practitioner's prescription may lead to erroneous dispensing by the pharmacist. A risk assessment of errors on medical prescriptions in Malta and Germany was undertaken.

## AIMS

The study developed a comparative research method with the aim of

- 1) identifying and analysing the current status of processes that may lead to prescribing errors and,
- 2) assessing the risk of prescribing errors from a medical practitioner perspective.

## METHOD

- Interviews with medical practitioners were conducted in Malta and in Germany to identify root causes of prescribing errors.
- Interview results were used to develop a questionnaire (validated by 16 experts) for medical practitioners, entitled 'Prescribing Error Questionnaire' (PEQ<sub>med</sub>).
- The PEQ<sub>med</sub> consisted of a Demographic section and two other sections;

- Section I: Root Cause Ranking where the identified root causes from the interviews and literature were assessed using five-point Likert scale questions
- Section II: Prescribing Errors Risk Analysis where prescribing errors were quantified on a scale of 1 (low score) to 4 (high score) for severity of consequences and probability of occurrence to get an overall Risk Priority Number (RPN). A RPN of 1-4 denoted a low risk, a RPN of 6 denoted a medium risk, whereas a RPN of 8-16 denoted a high risk.

## RESULTS

- Two hundred and four medical practitioners (104 Malta, 100 Germany) answered the PEQ<sub>med</sub>.
- Two main categories related to root causes in the medication use process; i) work environment factors, for example, interruptions while treating patients and ii) prescriber-related factors, for example, patient information emerged from the data analysis of the literature and medical practitioners' interviews.
- Interruption rates while consulting a patient as a root cause of prescribing errors showed a statistically significant difference among medical practitioners ( $p < 0.001$ ) with 63 medical practitioners in Malta compared to 32 in Germany.

- Prescribing errors due to illegible handwriting (average RPN of 6.81) and the use of abbreviations (average RPN of 5.29) were rated as the two most common risks leading to potential dispensing errors in Malta (Table 1).

Prescribing Errors	Average RPN		P Value
	Malta	Germany	
Illegible handwriting	6.81	1.15	<0.001
Using abbreviations	5.29	4.94	0.990
Omission of patient indication	5.19	5.76	0.010
Longer duration of short-term use medication	4.87	6.21	0.010

Table 1: Potential Prescribing Errors Rating in the PEQ<sub>med</sub>

## CONCLUSION

The potential risk of prescribing errors in Malta and Germany was assessed by undertaking a risk assessment exercise. Healthcare risk assessment methods are relatively new and have been used in high-risk industries. Considering the medication use process as highly-risk prone, it would be appropriate to consider, apply and implement risk assessment methods in this context to mitigate risks related to prescribing errors.

## REFERENCES

1. Management Sciences for Health. Managing for rational medicine use. MDS-3-Managing Access to Medicines and Health Technologies. [Internet] MSH 2012 [cited 2018 May 31]. Available from: <https://www.msh.org/sites/msh.org/files/mds3-ch27-rationaluse-mar2012.pdf>