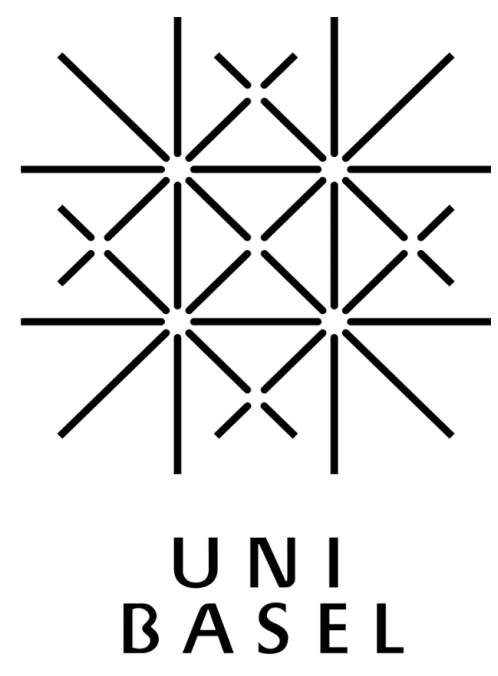


Identifying patients at risk for medication-related problems in home care – Optimizing the application of the validated assessment tool doMESTIC RISK®

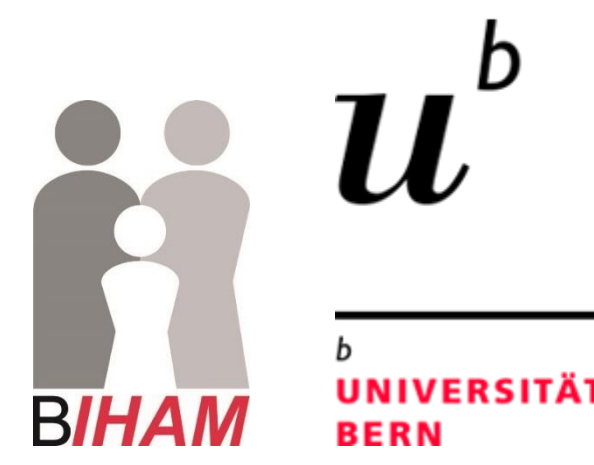


Raphael Dimitri Mäder¹, Estelle Kaiser¹, Alice Panchaud Monnat¹, Carla Meyer-Masseti^{1,2,3}

¹ Institute for Primary Healthcare BIHAM, University of Bern, Switzerland

² Clinical Pharmacology and Toxicology, Inselspital, Bern, Switzerland

³ Clinical Pharmacy & Epidemiology, University of Basel, Switzerland



Correspondence: Prof. Dr. phil. II Carla Meyer-Masseti, Hospital pharmacist FPH: carla.meyer-masseti@biham.unibe.ch

BACKGROUND

Medication-related problems cause unwanted treatment effects, adverse drug reactions and unnecessarily expensive therapy costs.

“doMESTIC Risk” is a validated, interprofessional risk assessment tool specifically designed for the home care setting. It aims at identifying and prioritizing home care patients at risk of medication-related problems.

The tool, developed in the scope of two masters theses, supports nurses and pharmacists in identifying patients at high risk of medication-related problems.

Up till now, there were no detailed instructions available in order to ensure the tools correct and uniform application.

OBJECTIVE

The aim of this master thesis was to develop a well-structured and user-friendly manual to ensure the correct and consistent application of the doMESTIC Risk Tool.

METHODS

1. Identification of differences and difficulties in the practical use of the doMESTIC Risk Tool through a comparative applied study and subsequent > **focus group interviews** with three groups; each group consisting of three nurses.
2. **Development of the manual**
3. **Usability**
 - 3.1 Assessment of the readability > **readability index LIX¹**
 - 3.2 Assessment of the comprehensibility > **written usability survey** with 6 nurses and 8 pharmacists

3.1 Usability – readability

	Psychometrica®	Supertext®	Self-developed	Average score
Word count	1122	1136	1136	1131
Sentence count	61	67	65	64
Share of long words	40.2%	40.0%	39.7%	40.0%
Ø sentence length	18.3 words	17.0 words	17.5 words	17.6 words
LIX Score	58.6	57.0	57.2	57.6

> A LIX Score of 50 - 60 represents a readability level of “non-fiction literature”.

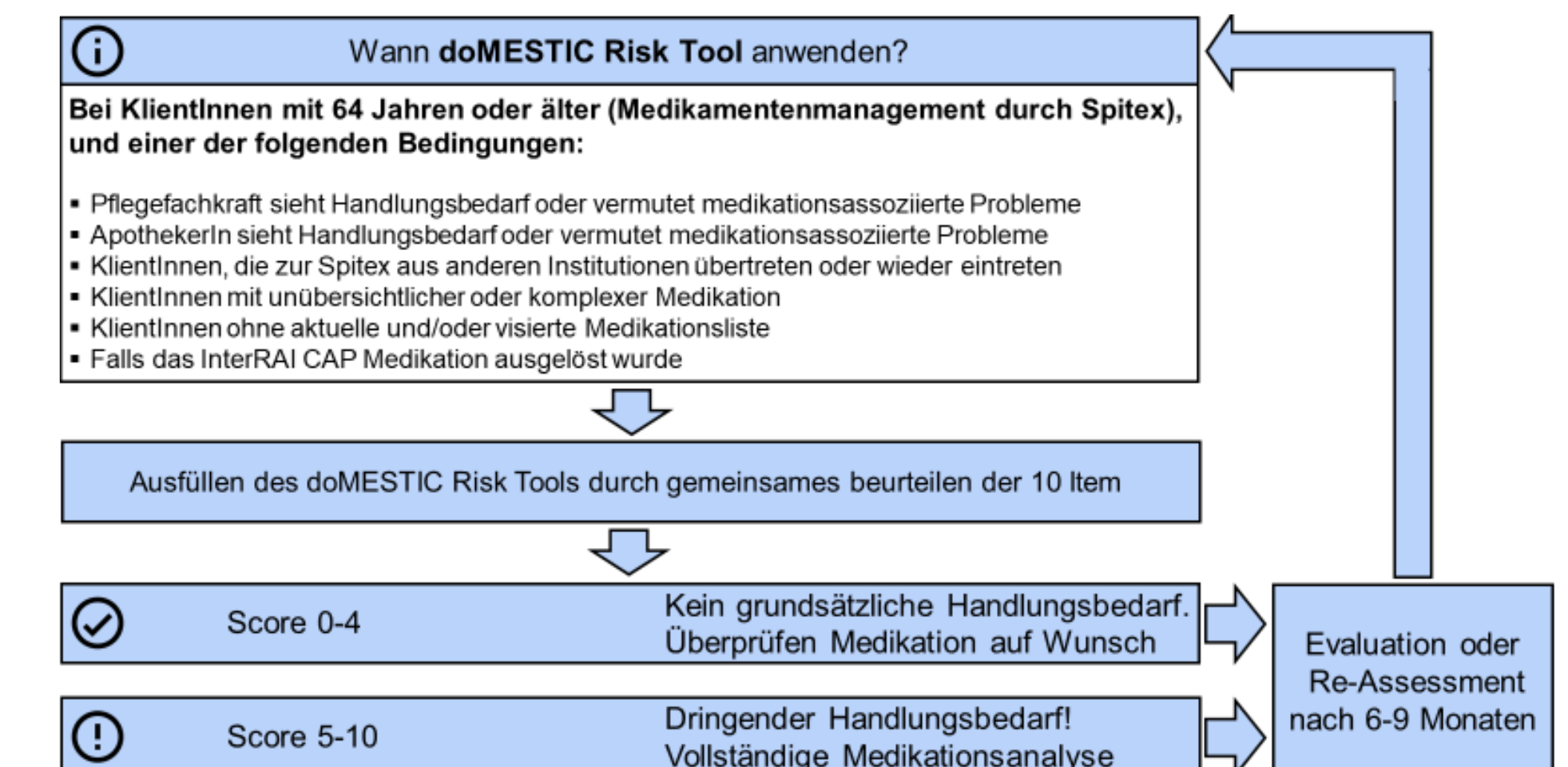
doMESTIC RISK® - Tool & Manual

Name KlientIn:	Name FM:
Geburtsdatum:	Team:

Nr.	Risikofaktor	Score	Weiterleiten	Resultat
1	Ans Haus gebunden in Kombination mit kognitiven Problemen oder fehlender sozialer Unterstützung	1 Punkt(e)	<input type="checkbox"/>	
2	Wechselnde oder gleichzeitig mehrere Verordnende (Spital, Kurhaus, Hausarzt, Spezialist)	2 Punkt(e)	<input type="checkbox"/>	
3	Unmittelbar erfolgter Übertritt Spital zur Spitex	1 Punkt(e)	<input type="checkbox"/>	
4	Nierenfunktionsstörung GFR < 30ml/min	2 Punkt(e)	<input type="checkbox"/>	
5	Anzahl Medikamente ≥ 7 (inkl. Reserve)	2 Punkt(e)	<input type="checkbox"/>	
6	Hochrisikomedikamente/Medikamentengruppen und/oder Medikamente mit enger therapeutischer Breite (Neuroleptika v.a. Lithium, Digoxin, Amiodaron und andere Antiarrhythmika, Antiepileptika v.a. Phenytoin, Phenobarbital, Carbamazepin, orale Antikoagulantien v.a. Marcoumar, DOAK, Insuline, Methotrexat, Theophyllin) und/oder ≥ 3 Medikamente mit Wirkung auf das zentrale Nervensystem (zentral wirksame Analgetika, Antipsychotika, Antidepressiva, Benzodiazepine)	1 Punkt(e)	<input type="checkbox"/>	
7	Medikamente, die für geriatrische Patienten ungeeignet sind (z.B. Priscus®-Liste)	3 Punkt(e)	<input type="checkbox"/>	
8	Doppelte Verschreibung einer Substanz (z.B. Generikum und Original) oder Klasse	3 Punkt(e)	<input type="checkbox"/>	
9	Patient - mangelndes Verständnis für Therapie und/oder Krankheit (Kognition und/oder Verständigungsprobleme, z.B. Fremdsprache, Beeinträchtigung des Gehörs)	1 Punkt(e)	<input type="checkbox"/>	
10	Non-Adhärenz / mangelnde Compliance (z.B. inkorrekte Einnahme durch Nichtverstehen der Therapie) und/oder Patient nimmt Medikamente ohne Wissen des Arztes (auch selbst gekaufte)	1 Punkt(e)	<input type="checkbox"/>	
Total Risiko-Score				

Bemerkungen/Hinweise/Beobachtungen

Quickstart Guide



Zeitpunkt?

Bei KlientInnen über 64 Jahren (Medikamentenmanagement durch Spitex), und eine der folgenden Bedingungen:

- Pflegefachkraft sieht Handlungsbedarf oder vermutet medikationsassoziierte Probleme
- ApothekerIn sieht Handlungsbedarf oder vermutet medikationsassoziierte Probleme
- KlientInnen, die zur Spitex aus anderen Institutionen übertreten oder wieder eintreten
- KlientInnen mit unübersichtlicher oder komplexer Medikation
- KlientInnen ohne aktuelle und/oder visierte Medikationsliste
- Falls das InterRAI CAP «Medikation» ausgelöst wurde

Vorgehen?

- Beurteilen der 10 Items
- Mithilfe der Akten der KlientInnen
- Falls nötig mit anderen Assessments

Beurteilung?

Risikofaktoren können:

- Zutreffen
- Nicht Zutreffen
- Weitergeleitet werden

Auswertung?

Score 0-4: Kein grundsätzlicher Handlungsbedarf. Überprüfen Medikation auf Wunsch

Score 5-10: Dringender Handlungsbedarf! Vollständige Medikationsanalyse!

Evaluation und Re-Assessment

Alle 6 – 9 Monate

RESULTS

1. Most commonly identified difficulties/discrepancies – Focus groups

Process affected by difficulties	Questions of the focus groups
Assessment process	Tool intended for completion with or without the home care client?
Scoring	Allocation of partial points allowed?
Terms and definitions	Several clarifications needed

- > Time necessary to complete the tool depends highly on the experience with the tool.
- > Risk factors focusing on medication (items 6, 7) are very time-consuming for nurses.
- > Assessment by nursing requires in-depth knowledge about the specific client.

2. Development of the manual

- Detailed written manual, addressing every assessment item individually
- Integration of a checkbox for “referral” and free-text space for comments
- Development of an abbreviated manual (“Quick start guide”).

3.2 Usability – comprehensibility

Survey feedback - the manual was perceived as:

- clear
- intuitive
- providing good guidance
- compact
- containing useful decision trees
- useful combination of text and illustrations.

DISCUSSION & CONCLUSIONS

- The doMESTIC Risk Tool Manual provides clarification on uncertainties and unclear points in the practical application of doMESTIC Risk.
- The manual explains relevant points of application and ensures the correct and consistent use of the tool.
- The readability test confirmed that the manual is easy to read.
- The usability survey verified that the manual is well-structured and well understandable for nurses and pharmacists.

These are important preconditions for the doMESTIC Risk Tool to be established as a standardized tool for the detection of medication-related problems in the home care setting. Thus, it can help to strengthen the acceptance of pharmaceutical services and the interprofessional cooperation between nurses and pharmacists in this setting.

In a further study, the observer variability of the doMESTIC Risk Tool in combination with its manual should be tested.