Medication safety during transition of care – from hospital to home care

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Dr. phil. II Carla Meyer-Massetti, PhD
Hospital pharmacist FPH

Überall für alle
SPITEX
Stadt Luzern

University Hospital Basel

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Agenda

1	Medication safety in home care – Background information - Setting Home Care («Spitex») - Current research status
2	Pilot project doMESTIC 2016 - 2019
3	Baseline study - results
4	Next steps – planned project activities

Conflicts of interest and funding

Conflicts of interest:

The presenter has no conflicts of interest influencing this presentation.

Third party funding:

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1 Background

1.1 Why medication safety & home care?

The significance of medication safety

- Medication-related problems are the most frequently reported problems in health care.
- Up to 60% of medication related problems are potentially preventable.

The relevance of home care services

- Due to the demographic development, home-dwelling patients are predominantly elderly, increasingly requiring support due to polymorbidity and subsequent polypharmacy.
- The shift from inpatient to ambulatory care requires more professional care in the patients' home.

The home care setting

- Home care organizations are constantly managing transfer of care situations.
- The medication use process requires up to 20 steps.

Meyer-Massetti C, Kaiser E, et al. Medikationssicherheit im Home Care Bereich – Identifikation von kritischen Prozessschritten, Pflege 2012;25(4):261-69.

Meyer-Massetti C, Krummenacher E, et al. Medikationssicherheit im Home Care Bereich – Entwicklung und Pilotierung eines Critical Indicent Reporting Systems, Pflege 2016;29(5):247-55.

1.2 Current research status

Systematic literature review

Goal: To obtain quantitative baseline data on medication safety in home care

Databases: Pubmed, Embase, CiNAHL

Timeframe: 1.1.2000 – 31.12.2016

44 studies containing quantitative, original data on drug-related problems in home care

11 studies specifically addressing transfer of care from hospital to home care

Quality of the 11 transition of care-studies

- Observational studies
- Origin: USA (9 studies), Australia (1 study), Canada (1 study)
- Population size: 27 – 786 patients (mean: 290 patients, median: 196 patients)
- Included age groups: patients ≥65 years (5 studies), patients ≥50 years (2 studies)

Meyer-Massetti C, Meier Ch. Guglielmo BJ. Drug-related problems in the home care setting – a systematic review, *accepted for publication, IJCP*

1.2 Current research status

Systematic literature review - results

Medication consumption

- Mean number of prescribed medications: 6.3 – 12.4 (range/patient: 0 – 40)

Medication quality

most commonly used assessment criteria: Beer's Criteria (5 studies)

- Patients ≥1 PIMs: ranging from 11.8% and 88.4%
- Portion of prescribed medications identified as PIMs: 3.4% - 3.7%

➢ The number of PIMs increases with the number of prescribed medications

- Patients with ≥1 discrepancies: ranging from 10% - 94%
- Discrepancies/patient: ranging from 3 – 7

➢ The number of discrepancies increases with the number of prescribed medications

- Drug-related problems overall: Ø 3.7/patient

2 doMESTIC 2016 - 2019

2 doMESTIC 2016 - 2019

doMESTIC - Study of Medication Safety in Home Care

Research goals

- Solid medication safety database for the home care setting in Switzerland
- Identification, development and piloting of interprofessional interventions aiming at optimizing medication safety
- Focus on different transition of care settings:

  1. year (2016/2017): hospital – home care

  2. year (2017/2018): primary care providers – home care

  3. year (2018/2019): patients / caregivers – home care

2 doMESTIC 2016/2017

Setting

Non-for-profit home care organization in the city of Lucerne/Central Switzerland
www.spitex-luzern.ch

Catchment area: approx. 80’000 inhabitants / physician self dispensing
2015: 1‘856 clients, 110‘585 service hours
approx. 400 clients are supported in their medication use process every month

5 locations in the city of Lucerne
260 employees

Specialty care: psychiatry, palliative care, night shift, assisted living facilities
IT: electronic patient file, use of smartphones/tablets, electronic CIRS

3 Baseline study – transition of care from hospital to home care

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Assment of process-based problems

3.1 Analysis of the critical incident reporting-system

3.2 Analysis of the complaint management system

3.3 Comparison agreed-upon vs. current process (checklists)

Timeframe: October 10, 2016 – June, 26 2017

Sample size: 100 patients

Inclusion criteria: direct discharge from hospital to home care
> 64 years of age,
≥ 4 prescribed medications
home care officially involved in the medication use process

Analysis of potential medication-related problems

3.4 Systematic medication analysis by a clinical pharmacist

3 Baseline study – transition of care from hospital to home care

3.1 Analysis of the critical incident reporting system CIRS

- Voluntary, anonymous system
- Paper-based version since 2012
- Electronic system since 2016

Year	Reports total	Medication-related		Medication- & hospital discharge related	
		Number	[%]	Number	[%] of medication-related reports
2016	221	134	60.6	11	8.2
2015	43	40	93.0	0	0.0
2014	33	32	97.0	2	6.3
2013	0	0	n/a	0	n/a
2012	43	37	86.0	0	0.0
Total	**340**	**243**	**71.5**	**13**	**5.3**

Examples

Unclear/wrong/ missing prescription:	6 reports
Missing medication:	1 report
Both:	1 report
Contradictory prescriptions:	1 report

3 Baseline study – transition of care from hospital to home care

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3.2 Analysis of the complaint management system

- Shared platform of hospitals, nursing homes and home care organizations in the canton of Lucerne
- Structured reporting form
- Bi-yearly meetings of an expert group, representing all institutions

- Number of complaints: **57** from 1.1.2014 – 31.12.2016, approx. 20 complaints/year

- 5 major problem areas:

- Communication (registration, transfer of information/documents)	**62%**
- Medication (missing information, missing medication)	21%
- Material (material incomplete, missing)	11%
- Other (patient discharge too early, etc.)	6%

3 Baseline study – transition of care from hospital to home care

3.3 Comparison agreed-upon vs. current process

Demographic information

Total patients discharged from hospital:	457
Patients >64 years:	297
Excluded patients:	197

(no direct transfer of care after hospital discharge; <4 medications, no medication-related support by home care, only one home care visit)

Included patients:	**100**
- Mean age:	82 years (range 65 – 97 years, median 83 years)
- Male:	52%
- Female:	48%
- Newly registered patients:	52%
- Previously registered with home care:	48%

3 Baseline study – transition of care from hospital to home care

3.3 Comparison agreed-upon vs. current process cont.

(Checklist 1 – first home visit post-discharge, checklist 2 – home visit 7-10 days after discharge)

Agreement between hospitals and home care organization:

- Registration at least 48 hours before the first home care visit
  (Registration: 75% by hospital, 23% by caregivers, 3% other)
- Transfer of written discharge information
  order for home care services, discharge report – physician, discharge report – nursing, medication list, medication prescription

Process step analyzed	Result	Main concern
Timely registration	76%	**Communication**
- Newly enrolled home care clients	88%	
- Previously enrolled home care clients	63%	
Transfer of complete written discharge information	3%	**Communication**
- Medication list in any format - Discharge report – physician - Discharge report - nursing	87% *55%* *63%*	

3 Studie Baseline- Daten Schnittstelle Spitex - Spital - Spitex

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3.3 Comparison agreed-upon vs. current process cont.

Comprehensibility of mediation during first home visit

Unambiguous:	62%
Partially/unclear:	38%
Clarification before next visit:	65% (57% via PCP, 30% via hospital, 3% other)
Resulting complications:	n=22 (e.g., delayed/no intake, outdated medication list)

Medication availability during first home visit

Medication available:	80%
Resulting complications:	aside from 1 case – ALWAYS!

Incident reports

- CIRS: **3**
- Complaint management: **2**

3 Studie Baseline- Daten Schnittstelle Spitex - Spital - Spitex

3.4 Systematic medication analysis

Number of prescribed medications:	Ø 8.6 ± 3.5 (1-17, median 8)
Number of as-needed medication:	Ø 1.2 ± 2.1 (0-11, median 0)
Patients with Vitamin K-antagonists:	13%
Patients with new oral anticoagulants:	23%

Prescription quality

Total number of prescribed drugs:	984
UNAMBIGOUSLY prescribed drugs:	830 (84%; manually prescribed: 80%, electronically prescribed: 90%)
Patients with unambiguous prescriptions:	33%
Type of missing information:	product (60%), dose (13%)

Potentially inadequate medication

Serious / absolute contraindications:	7 medications (6 patients)
Duplications:	8 medications (7 patients)
PRISCUS list:	2.2% of patients

Diskrepanzen Spitex – Spital – Spitex (bisherige Patienten)

Anzahl betroffene Medikamente:	219 (Ø 2.2/Patient unerklärt gestoppt)

4 Next steps

4 Next steps

Main areas of concern

- Communication
- Availability of medications at the patient’s home
- Prescription quality

Improvement goals

- Timely, complete and accurate transmission of medication-relevant discharge information
- Timely and complete availability of medications at the patient’s home
- Timely availability of a complete and accurate medication list at discharge

4 Next steps

Pilot study implementing services of a clinical pharmacist at transition of care from hospital to home care

Optimizing communication

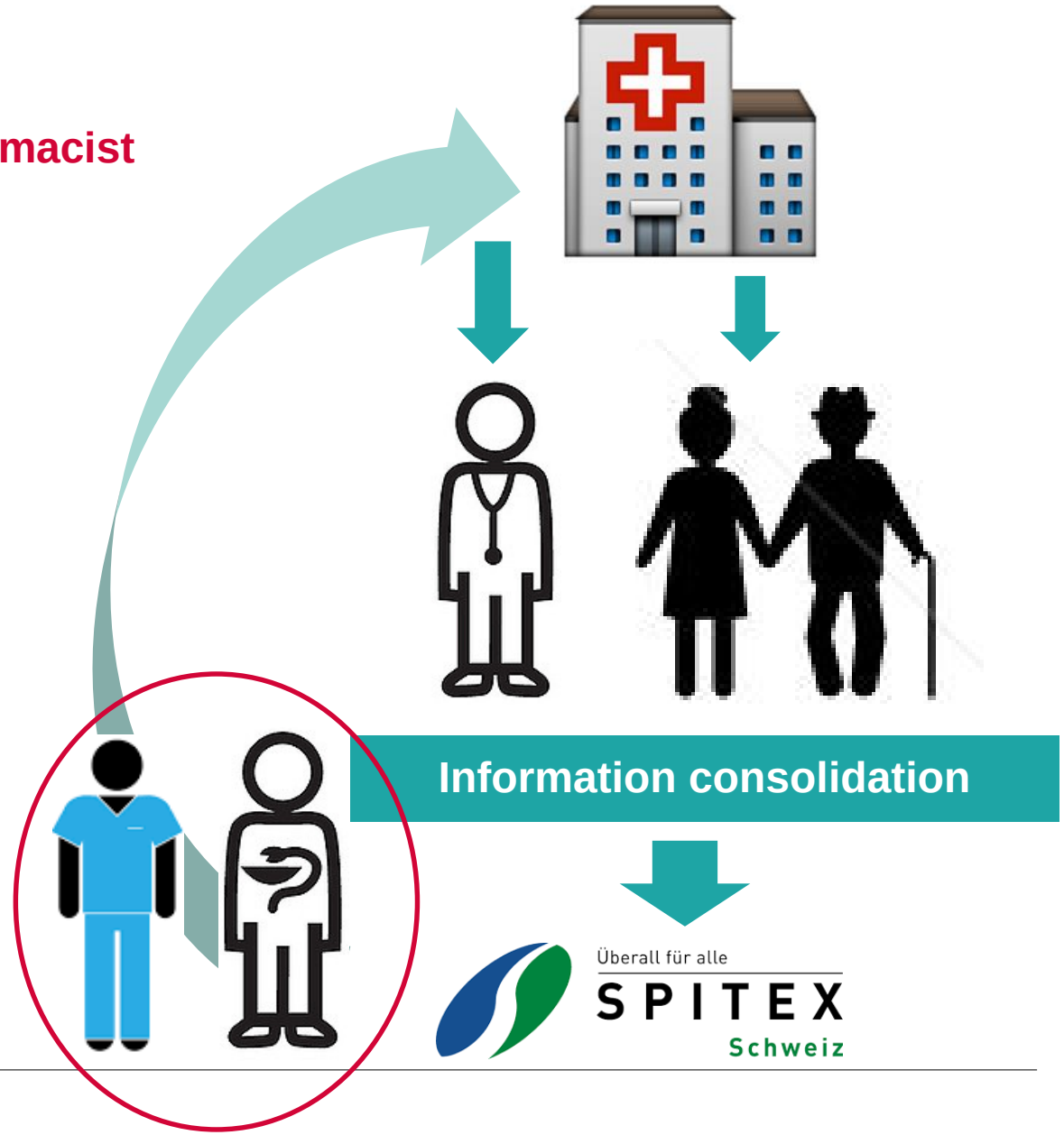
New, proactive role for the home care organization

- Optimizing agreements with hospitals
- Ensuring information transfer
- Planning ahead – ensuring medication availability

Optimizing prescription quality

- Systematic medication reconciliation
- Systematic medication analysis

in an **interprofessional team.**



Thank you for your interest!

Contact:
carla.meyer@unibas.ch
carla.meyer@spitex-luzern.ch