Pharmacist’s role in seamless care in the hospital

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Conflicts of interests

Markus L. Lampert, 02.02.2018

None to declare
Identifying the Optimal Role for Pharmacists in Care Transitions: A Systematic Review

Hendrik T. Ensing, PharmD; Clementine C. M. Stuijt, PharmD; Bart J. F. van den Bemt, PharmD, PhD; Ad A. van Dooren, PharmD, PhD; Fatma Karapinar-Çarkıt, PharmD, PhD; Ellen S. Koster, PhD; and Marcel L. Bouvy, PharmD, PhD

What this study adds

- Our model systematically categorized components of pharmacist intervention in care transition programs. Study heterogeneity enabled a best evidence synthesis to elucidate effective components.
- This review revealed that multifaceted programs should combine medication reconciliation with active patient counseling and a clinical medication review. Care continuity can be secured by integrating pharmacists across settings and providing them with patients’ clinical background.
- Collaborating with other health care professionals is crucial to increase the effectiveness of pharmacist intervention.

Eising, J Manag Care Spec Pharm, 2015
HEALTH CARE REFORM

Hospital-Based Medication Reconciliation Practices

A Systematic Review

Stephanie K. Mueller, MD; Kelly Cunningham Sponsler, MD; Sunil Kripalani, MD, MSc; Jeffrey L. Schnipper, MD, MPH

Conclusions: Rigorously designed studies comparing different inpatient medication reconciliation practices and their effects on clinical outcomes are scarce. Available evidence supports medication reconciliation interventions that heavily use pharmacy staff and focus on patients at high risk for adverse events. Higher-quality studies are needed to determine the most effective approaches to inpatient medication reconciliation.

Published online June 25, 2012.
Medication Reconciliation by pharmacists: what is the evidence?

Mekonnen A et al; Journal of Clinical Pharmacy and Therapeutics, 2016, 41, 128–144
Medication Errors: effect of pharmacists' interventions

<table>
<thead>
<tr>
<th>Study name</th>
<th>Comparison</th>
<th>Outcome</th>
<th>Statistics for each study</th>
<th>Events / Total</th>
<th>Peto odds ratio and 95% CI</th>
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<td>Peto odds ratio</td>
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<td>0.449</td>
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</table>

De Oliveira G et al; J Patient Saf 2018; e-pub 30-01-2018
Readmission and emergency room visits: effect of pharmacists’ interventions

<table>
<thead>
<tr>
<th>Study name</th>
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<th>Outcome</th>
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<td>PharmD</td>
<td>Readmission</td>
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<td>PharmD</td>
<td>Readmission</td>
<td>0.526</td>
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<td>-1.830</td>
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<td>0.734</td>
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<td>-1.403</td>
<td>0.161</td>
<td>397 / 1070</td>
<td>1076 / 2711</td>
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</table>

De Oliveira G et al; J Patient Saf 2018; e-pub 30-01-2018
The role of the hospital pharmacist – vision and reality

• “The pharmacists in our hospital enter all medicines used onto the patient’s medical record on admission.” (24% of responses were positive.)

• “The pharmacists in our hospital reconcile medicines on admission.” (39% of responses were positive.)

• “When reconciling medicines, the pharmacists in our hospital assess the appropriateness of all patients’ medicines, including herbal and dietary supplements.” (40% of responses were positive.)

• ”The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings.” (39% of responses were positive.)

The role of the hospital pharmacist - today

**EAHP Statement 4.5:** Hospital pharmacists should promote **seamless care** by contributing to transfer of information about medicines whenever patients move between and within healthcare settings.

The role of the hospital pharmacist - today

**EAHP Statement 4.4:** All the medicines used by patients should be entered on the patient’s medical record and reconciled by the hospital pharmacist on admission. Hospital pharmacists should assess the appropriateness of all patients’ medicines, including herbal and dietary supplements.

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Clinical Pharmacy in Hospitals: the European situation

Percentage of pharmacies with either daily visits on the wards by pharmacists or having pharmacists working at least 50% of their time on the ward (n=981). Total may be >100% as some pharmacies have both services. BiH, Bosnia and Herzegovina; FYROM, Former Yugoslav Republic of Macedonia.

Clinical pharmacy in Swiss Hospitals.

Figure 1 / Ratio of clinical pharmacy practice (red) vs other pharmacy activities (yellow) in the different language areas: French (blue), German (light blue) and Italian (dark blue). Hospital networks are represented as one location.

Clinical pharmacy services were structured into a) patient-, b) treatment-, and c) process-related activities. Only responses from the institutions that provide clinical pharmacy activities were taken into account (n=33).

Clinical pharmacy in Swiss Hospitals. Pharmacist’s Interventions

# The role of the hospital pharmacist at discharge: a survey in Switzerland

<table>
<thead>
<tr>
<th>Tasks of the pharmacists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substitution (back to brand patient had before hospitalisation)</td>
</tr>
<tr>
<td>In-depth counselling patients on medication</td>
</tr>
<tr>
<td>Intervention and documentation on discharge prescription</td>
</tr>
<tr>
<td>Counselling patients on medication</td>
</tr>
<tr>
<td>Generating a medication plan</td>
</tr>
<tr>
<td>Validation of discharge prescription</td>
</tr>
<tr>
<td>Patient instructions (e.g. asthma devices)</td>
</tr>
<tr>
<td>Counselling patients on what to do with drugs from before hospitalization</td>
</tr>
<tr>
<td>Noting additional information on discharge prescription</td>
</tr>
<tr>
<td>Counselling patients on red flags</td>
</tr>
<tr>
<td>First provision of drugs</td>
</tr>
</tbody>
</table>

Studer H et al: PCNE Workshop 2018 Fuengirola (poster)
The hospital pharmacist’s role in the discharge procedures

Studer H1, Buegi F2, Hersberger KE2, Lampert ML1,2

1 Pharmaceutical Care Research Group, University of Basel, Switzerland
2 Clinical Pharmacy, Institute of Hospital Pharmacy, Schaefer, Solothurn AG, Switzerland
Seamless care... a definition

“The degree to which the service system links episodes of treatment into a seamless, uninterrupted whole, in conformity with the needs of the patient.”

“Continuity of care is a multidimensional concept including integration and coordination of services, communication among the various service providers and the stability of patient caregiver relationship over time.”  

*Saarento, Soc Psychiatry Psychiatr Epidemiol 1998*

Continuity of care is the desired end product of the discharge process, which enables clients to maximize their potential for wellness … while minimizing discomfort and stress.”  

*Cameron, Can J Hosp Pharm, 1994*
Seamless care: to build a bridge
DEFINE ROLES

"There was an important job to be done and Everybody was asked to do it. Anybody could have done it, but Nobody did it. Somebody got angry about that because it was Everybody's job. Everybody thought Anybody could do it, but Nobody realized that Everybody wouldn't do it. It ended up that Everybody blamed Somebody when actually Nobody did what Anybody could have done." (Anonymous)
Pharmaceutical care models at discharge

A

B1

B2

C
Pharmaceutical care models at discharge: the «sequential model»

Hospital with/without clinical pharmacy service:
- MedRec at admission and/or discharge
- Discharge medication plan
- Hand-over documents for CP and GP

Community pharmacy:
- Constant partner for the patient’s drug management
Pharmaceutical care models at discharge: the «focused model»

Hopital owned or hospital near «discharge pharmacies» provide specific services

Seamless does not necessarily mean continuous!

Access to patient data is crucial

Incentives for the hospital to do this?
Pharmaceutical care models at discharge: the «collaborative model»

Specific services by specialised pharmacists at discharge:
- initiate changes in the medicines management
- follow-up by CP

Hand-over to the primary care setting (CP and GP)

Innovative collaborative models can create incentives!
MOSAIC.

Medicines management Optimisation by Structured Assessment in Integrated Care

[Individualised Clinical Risk Management Using Integrated Pharmaceutical Care]

a new framework optimising the cost/effectiveness-ratio of clinical pharmacist’s interventions and leads to a continuum of care in the Swiss health care system.

Legende
Orange, round edges: tools
Blue/green, sharp edges: processes/interventions
DART – Drug-associated risk tool
Defining risk factors (RF) for ADEs by a mixed methods approach

1. Expert panel (Nominal Group Technique [2,3]):
   During a structured discussion, all participants had to write down as many risk factors as possible from their professional experience and rank them by their importance.

2. Expert panel discussion parts:
   Qualitative analysis of the structured, audiotaped discussion.

3. Literature search
   in PubMed and Embase. Titles and abstracts were screened for the terms “risk factors”, “predictors”, or “high risk” combined with “drug-related problems” or sub terms of its definition.

Exclusion criteria
- RF mentioned in only 1 publication
- lowermost quartile of the ranking list
- unpredictable event or circumstance
- interventions to improve seamless care
- seamless care issues
- synonyms

4. Delphi Questionnaire [2,3]

DART – Drug-associated risk tool
Defining risk factors (RF) for ADEs by a mixed methods approach

MOSAIC.

Medicines management Optimisation by Structured Assessment in Integrated Care
[Individualised Clinical Risk Management Using Integrated Pharmaceutical Care]
a new framework optimising the cost/effectiveness-ratio of clinical pharmacist’s interventions and leads to a continuum of care in the Swiss health care system.
PharmDISC: an intervention-based classification


FIGURE 1 User-agreement based on 3 model pharmaceutical interventions rated by 19 users for each classification category of the PharmDISC system expressed as κ coefficients. A κ value greater than 0.40 is considered necessary for a valid classification system.

TABLE 1 PharmDISC development process: From research to practice

<table>
<thead>
<tr>
<th>Part 1: Development of PharmDISC</th>
<th>Part 2: Validation of PharmDISC</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage</strong></td>
<td><strong>Development</strong></td>
<td><strong>Piloting</strong></td>
</tr>
<tr>
<td>Methods</td>
<td>1. Exploratory trial: analysis of medication review protocols (modification of GSASA system to PharmDISC)</td>
<td>1. Interrater reliability study</td>
</tr>
<tr>
<td></td>
<td>2. Expert panel discussion</td>
<td>2. Appropriateness, interpretability and validity study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Face and content validity study</td>
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<td></td>
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<tr>
<td><strong>Output</strong></td>
<td><strong>Version 1.0</strong></td>
<td><strong>Version 1.1</strong></td>
</tr>
</tbody>
</table>
Conclusion.

The hospital pharmacist should play a major role in the seamless care process

• by analysing the current setting and initiating discussions about shared responsibilities
• by establishing patient-centered services
  - targeted to high risk patients
  - linked to primary care
• by documenting the performance and impact of such services
• by raising the awareness in the hospital management
• by being involved in research projects to develop and evaluate progress in the seamless care process
Thanks to the team.

Fabienne Böni, PhD
Carole Kaufmann, PhD
Dominik Stämpfli
Karen Maes
Tamara Imfeld
Helene Studer
Kurt Hersberger, Prof.
… and many more
Thank you!