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Renal pharmacist optimises health outcomes for patients

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What was done?

Instead of visiting all patients in selected wards, the renal pharmacist focussed on patients with critical renal insufficiency across the majority of all wards.

Why was it done ?

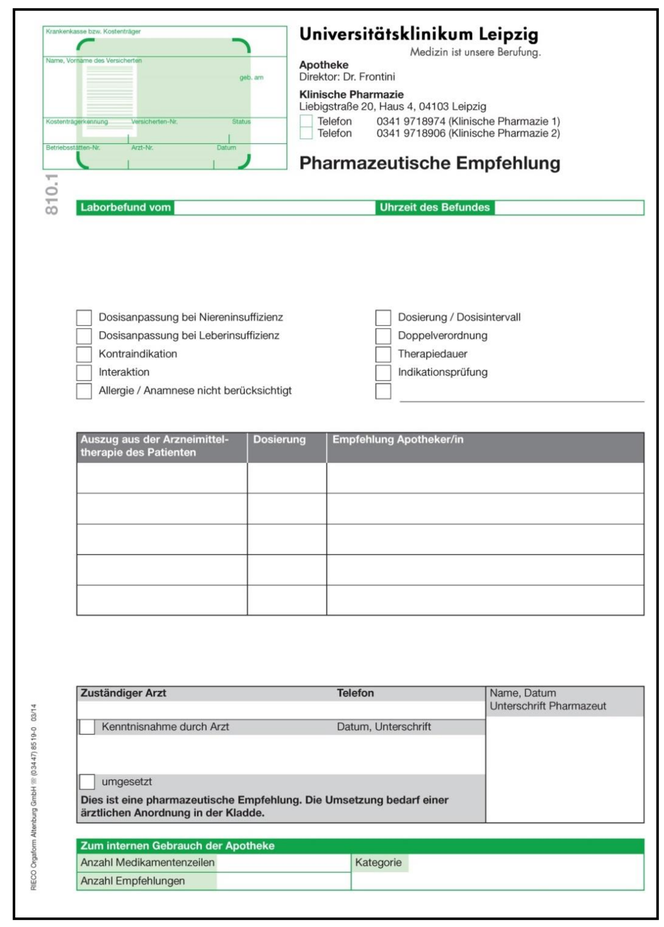
EUROPEAN STATEMENT 1.3: Health systems have limited resources and these should be used responsibly to optimise outcomes for patients.

Due to the limited number of clinical pharmacists at the University Hospital Leipzig (4 for 1,350 beds) only a few wards profited from clinical pharmacy services in the past. We aimed to improve the effectiveness by covering selected high risk patients in the majority of wards and compared the results with a classical round visit.

How was it done ?

The central laboratory identified patients as high risk, when their glomerular filtration rate (GFR) was below 30 ml/min and alerted the pharmacy via email.

For those patients, the renal pharmacist analysed the prescribed medication at least twice weekly throughout their hospital stay for dosing, medication errors, interactions and suggested alternatives where necessary. Interventions were discussed either directly with the doctor or by written recommendations (fig.1).



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Apotheke
Direktor: Dr. Frontini

Klinische Pharmazie
Liebigstraße 20, Haus 4, 04103 Leipzig
Telefon 0341 9718974 (Klinische Pharmazie 1)
Telefon 0341 9718906 (Klinische Pharmazie 2)

Krankenkasse bzw. Kostenträger
Name, Vorname des Versicherten
geb. am
Kostenträgerkennzeichnung
Versicherten-Nr.
Status
Betriebsstätten-Nr.
Arzt-Nr.
Datum

Pharmazeutische Empfehlung

810.1

Laborbefund vom
Uhrzeit des Befundes

- Dosisanpassung bei Niereninsuffizienz
- Dosisanpassung bei Leberinsuffizienz
- Kontraindikation
- Interaktion
- Allergie / Anamnese nicht berücksichtigt
- Dosierung / Dosisintervall
- Doppelverordnung
- Therapiedauer
- Indikationsprüfung
- _____

Auszug aus der Arzneimittel-therapie des Patienten	Dosierung	Empfehlung Apotheker/in

Zuständiger Arzt	Telefon	Name, Datum Unterschrift Pharmazeut
☐ Kenntnisnahme durch Arzt	Datum, Unterschrift	
☐ umgesetzt		

Dies ist eine pharmazeutische Empfehlung. Die Umsetzung bedarf einer ärztlichen Anordnung in der Kladde.

Zum internen Gebrauch der Apotheke		
Anzahl Medikamentenzeilen		Kategorie
Anzahl Empfehlungen		

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Figure 1: Form for written pharmaceutical recommendations to the doctor

What has been achieved ?

Over twenty months during 4,229 visits the renal pharmacist analysed the medication of 2,125 patients who had 11 different drugs on average. During that period 45 % of the recommendations were due to renal insufficiency. The most common interventions for renal patients were dosage adjustments to renal function (20%), contraindications (16%), no drug prescribed but clear indication (11%) and drug interactions (10%) (fig. 2).The therapeutic group that most frequently required renal pharmacist`s interventions (RPIs) was that of antithrombotic drugs (fig. 3).

Overall, the number of interventions (6.1% of medication items) and their severity across all renal insufficient patients exceeded those on a visceral surgical ward (2.4%)[1)] in the same hospital as comparator, confirming the higher effectiveness of this prioritisation. The major obstacle initially was the fact that clinical services by pharmacists were not implemented in most wards and that some of the doctors were sceptical concerning pharmacists´ skills. By intensive collaboration with the Department of Nephrology and continued pharmaceutical counselling we overcame these obstacles. This can be shown by an improved acceptance rate for RPIs (fig. 4).

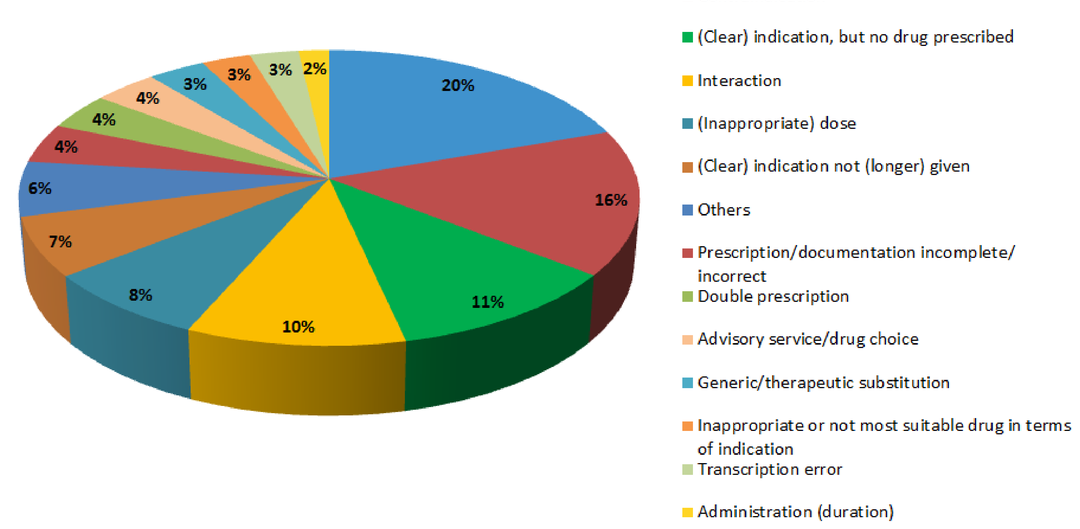

Figure 2: Reasons for renal pharmacist´s interventions; n = 447 (ADKA-DokuPik) 09-11/2014

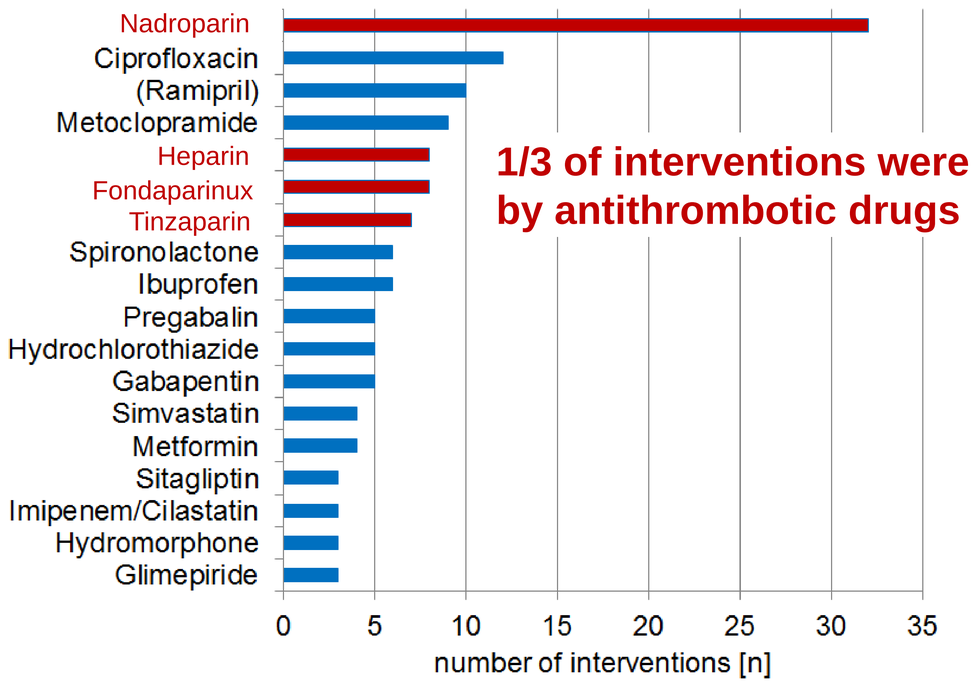

Figure 3: Frequently used drugs, contraindicated or not dose-adjusted in renal failure 02-04/2014

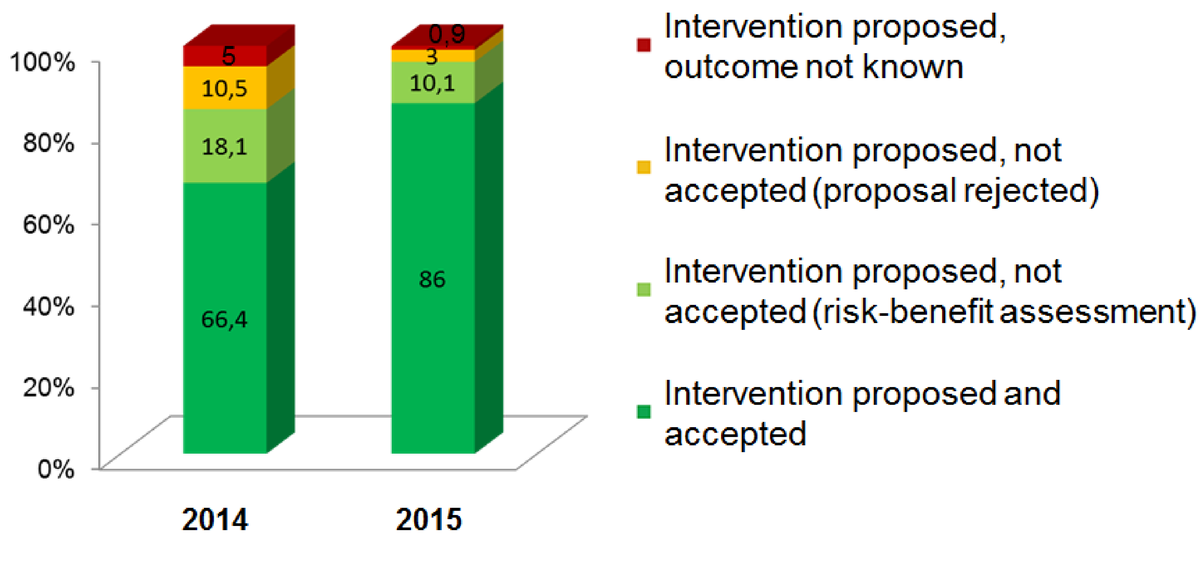

Figure 4: Acceptance rate for renal pharmacist´s interventions 09-11/2014 vs. 09-11/2015

What is next ?

To conduct further studies on medication safety, we established a centre for drug therapy safety in collaboration with the faculty of pharmacy aiming to discover valid criteria for identifying other high risk patients like those with polymedication or feeding tubes.

1) Schneider, Rick; Ranft, Donald; Heinitz, Katrin; Uhlmann, Dirk; Hauss, Johann; Frontini, Roberto; Leinung, Steffen (2012) Pharmazeutische Betreuung einer viszeralchirurgischen Station, Zentralblatt für Chirurgie, Apr;137(2):173-9

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