

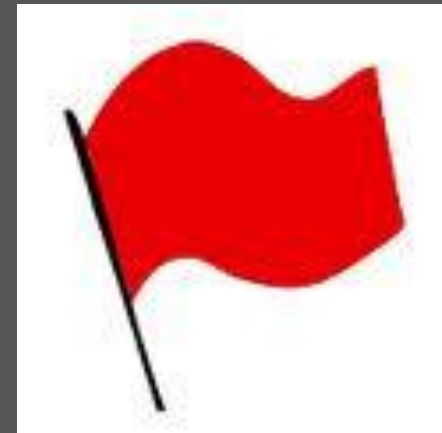
Early recognition of drug-related problems in homecare.

Development of a 'red flag instrument'.

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**RESEARCH CENTRE FOR
INNOVATIONS IN HEALTH CARE**





Research Centre for Innovation in Health Care comprises three research groups dealing with innovations in health care. It's always about a greater autonomy and independence of the patient. For the activities of the Research Centre

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Students and lecturers of the Hogeschool Utrecht University Of Applied Sciences can participate in the Research Centre's projects.

Program

- Introduction Anneke de Jong and Carolien Sino
- Introduce yourself,
- Introduction
 - Drug-related problems in home care
 - Discussion
- Methods:
 - Development of a 'redflag' instrument
 - Learning Community
 - Discussion
- Preliminary results
 - Discussion



INTRODUCTION

- Medication use in people aged 75 or older is 5 times higher than use in general population in the Netherlands
- Drug-related problems increase with the number of medication taken.
- Age related changes in pharmacokinetics and phamacodynamics
- Age related changes in cognition and coordination
- Elder population is more vulnerable to drug related problems



CONSEQUENCES

- Reduced quality of life
- Hospitalization (5.6% of all acute admissions)

RISKFACTORS:

- Age > 65
 - Impaired cognition
 - Four or more comorbidities
 - Dependent living situation
 - Impaired renal function
 - Polypharmacy (≥ 5)
 - Non adherence medication regimen
- Drug-related morbidity
 - Drug-related mortality



HOME HEALTHCARE POPULATION



Literature:

- 1/3 homecare patient had potential medication problems
- 1-18 drug related problems per homecare patient
- Prevalence of potential drug related problem of 4.5 per elderly patient
- User related problems in 26% of community dwelling older people



HOME HEALTHCARE POPULATION



Based on literature:

- Risk factors for drug related hospital admissions (*increased age, polypharmacy, multiple comorbidities, non adherence and impaired cognition*) have been found to be prevalent in community-dwelling elder receiving homecare
- Dutch Healthcare Inspectorate (IGZ) showed that arrangements to ensure medication in homecare organizations significantly fall below the required standard



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Sino & de Jong, 2011.
Early recognition in homecare



OUR IDEA

- Signs of drug related problems could be seen at home
- If homecare employees know where they could pay attention to, drugs related problems could be recognized early.
- An instrument for homecare employees to help them monitoring and recognizing drug related problems is needed





QUESTION to the audience:

WHAT DO YOU THINK?

- Which signs of DRP could homecare employees see in homecare?

- How could an instrument be developed?

Methods

Development of the 'redflag' instrument



- Drug related problems in literature
- Translated to observations and symptoms (red flags)
- Judged by a multi disciplinary expert panel (*contentvalidity*)
- We used a learning community

What is learning community?



- A multidisciplinary group
- Initiated because of a praxis problem in direct patient care
- In which 5-15 participants from the field of practice, education and research:
 - Share knowledge to identify the cause of the problem
 - Identify or create, implement and evaluate solutions
- The LC can meet virtual or live, in complete or small group-meetings and in personal meetings
- Aim: patient-oriented solutions through knowledge circulation

Results

Red flag instrument in three categories



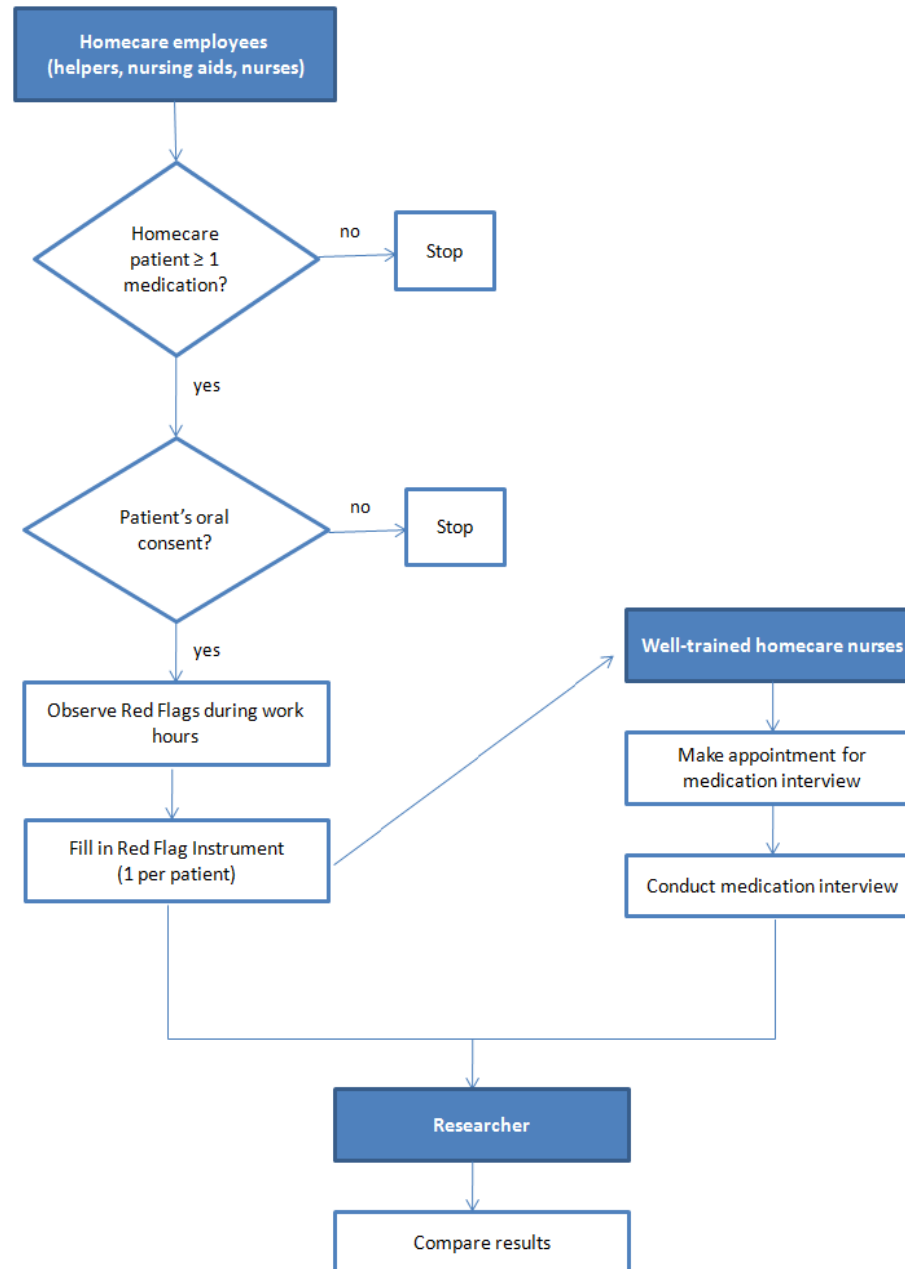
Category	Subcategories	Number of observation questions
Process	Absence of medication list	2
	Discrepancies in medication list	1
Pill	Gastrointestinal and other bleedings	4
	Electrolyte disturbances	3
	Disturbances of diabetic control	2
	Renal failure/heart failure	2
	Digoxin intoxication	1
	Constipation	1
	Risk to fall	1
Patient	Medication non-adherence	3
	Medication management problems	2
	Medication usage problems	2
	Pain and (Over The Counter) medicines	3
	Alcohol consumption	1
	Cognitive and behavioral changes	1

Validation study of the red flag instrument



- Applied in practice
- To assess concurrent validity
- Compared with golden standard medication interview

Procedures



Preliminary results



Characteristic ^a		(n = 40)
Age, years	Mean (SD)	78.9 (10.1)
	Age categories	
	45 – 59	2 (5.0)
	60 – 74	8 (20.0)
	75 – 89	28 (70.0)
	≥ 90	2 (5.0)
Gender	Female	33 (82.5)
	Male	7 (17.5)
Living situation	Living alone	33 (82.5)
	Cohabiting	7 (17.5)
Marital status	Unmarried	3 (7.5)
	Married	7 (17.5)
	Divorced	2 (5.0)
	Widowed	28 (70.0)
Level of education^b	No education	2 (5.3)
	Primary education	24 (63.2)
	Lower vocational education 1 (lbo, vmbo, mavo)	9 (23.7)
	Lower vocational education 2 (mbo, havo, vwo)	2 (5.3)
	Higher vocational education (hbo, wo)	1 (2.6)
Ethnic background^c	Dutch	38 (97.4)
	Indonesian	1 (2.6)
Number of drugs	Prescribed medicines, mean (SD)	8.4 (4.0)
	OTC medicines, mean (SD)	0.6 (1.2)
^a Values are number (%) unless otherwise specified. ^b Data on level of education missing for 2 participants. ^c Data on ethnicity missing for 1 participant.		



Potential DRP (Red Flag)	Number (%)
Process	n = 40
Medication list from the pharmacy is absent	29 (72.5)
Medication list from the pharmacy is present	11 (27.5)
- Patient does not take the medicines on the list (discrepancies between medication use by the patient and medication use registered by the pharmacy)	0 (0.0) (n = 11)
Pill	n = 40
Stomach ache	3 (7.5)
Very black feces	1 (2.5)
Regularly occurring nosebleeds	0 (0.0)
Bruises	16 (40.0)
Dizziness when standing up	10 (25.0)
Drowsiness	3 (7.5)
Thirst	15 (37.5)
(Increasingly more) tightness of chest	10 (25.0)
Fainting spells	3 (7.5)
Nausea, vomiting and/or no appetite	7 (17.5)
Abdominal pain and/or no bowel movement for more than 5 days	4 (10.0)
Diabetic patient: Irregular heart rhythm and transpiration	4 (10.0)
Diabetic patient: Feeling of hunger	2 (5.0)
Recently fallen without a clear cause	4 (10.0)
Patient	n = 40
Regularly forget to take his/her medication	7 (17.5)
- Week package contains medicine from previous days	3 (7.5)
- Robot-dispensed dosing aid ^a contains pouches of medicine from previous days	3 (7.5)
Supply of medicine is:	
- Disordered	3 (7.5)
- Regularly insufficient	0 (0.0)
Problems taking the medication	3 (7.5)
Trouble opening the packaging	4 (10.0)
Pain	14 (35.0)
More than 8 acetaminophen a day without a prescription	1 (2.5)
Other pain relievers (NSAIDs) without a prescription	0 (0.0)
More than 3 glasses of alcohol a day	1 (2.5)
Seriously different than usual	3 (7.5)

^a For definition see definition list in this report

Questions and discussion?





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