

Understanding and improving the quality  
of medication use:  
Research in Clinical Pharmacy starting from  
Academia

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(CLIP)*

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# Background

- Thousands of researchers work hard
  - to discover new drugs and targets for drug therapy,
  - to synthesise, to extract, to purify,...
  - to develop appropriate formulations,
  - to test them in clinical trials,
  - to...





# Background

- BUT... once the result of their work is available to « all »...
- The outcome can be different from the one expected...



# Background

- Adverse effects of inappropriate use of medicines:
  - Economical
    - Cost of treating ADEs > cost of drugs?
  - Clinical
    - ADEs, hospital admission, death,...
  - Humanistic
    - ↓ Quality of life and patients' satisfaction
  - Outcomes



# Background

- Landmark study on adverse drug events  
(Bates, JAMA 1995 and 1997)
  - 6.5 ADEs / 100 hospital admissions
  - 12% life threatening, 30% serious
  - 28-42% are **preventable**
    - Annual cost for a 700-bed teaching hospital: \$2.8 million



# Background

- *It is becoming increasingly clear that patient safety represents an important issue globally, and the amount of research on patient safety is skyrocketing.*
- *Despite this, it is not clear how big the problem of patient safety is.*
- *Furthermore, we need to go beyond the diagnosis of the safety problem and evaluate the potential solutions in various settings.*

Bates DW. Qual Saf Health Care 2008;17:156-7

- Optimising the use of medicines is central to the quality of patient care

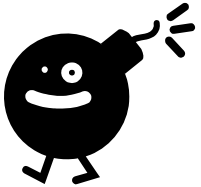


# Research themes



# Research themes

- Focus = high risk situations
  - Elderly patients
  - Patients in intensive care
  - Transitions across settings of care
  - ...







# Research themes



## ○ Quality =?

- What's going on?

## ○ Underlying factors ?

- Why is it going on that way?



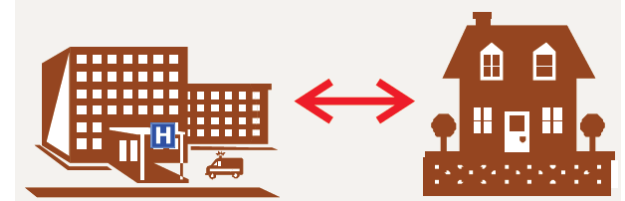
## ○ Approaches for optimisation

- Clinical pharmacy
- CDSS, protocols, audit and feedback,...



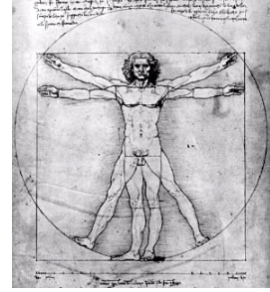
# Recent and ongoing research

# Seamless care



- What does the international experience tell us about optimisation approaches?
  - Systematic review of published literature; review of grey literature
- What do Belgian HCPs think about this?
  - Qualitative study
- Validation of an instrument to measure medication discrepancies
  - Content validation and reliability
- Evaluation of the impact of clinical pharmacists on seamless care
  - Controlled study

# Sedation in intensive care



- What are current sedation practices in intensive care in Belgium?
- Why don't HCPs follow current guidelines?
  - Qualitative study and national survey
- What is the impact of implementing protocols on patient outcomes?

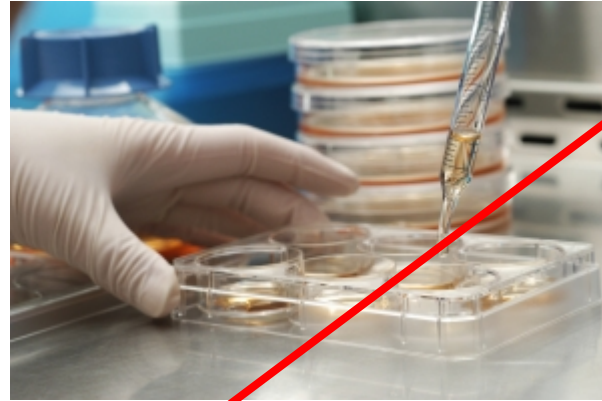
# Appropriate use of medicines in older people

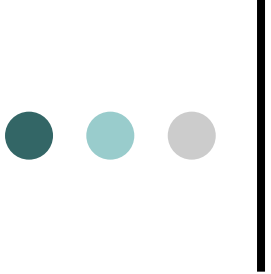


- How can we measure inappropriate prescribing in older patients?
  - Spinewine et al. JAGS 2005; Lancet 2007
- How big is the problem of inappropriate prescribing?
  - Spinewine et al JAGS 2007; Verrue et al JAMDA in press; Boland et al, in prep
- Why is the use of medicines not always appropriate?
  - Spinewine et al., BMJ 2005
- What is the impact of involving a clinical pharmacist in patients care?
  - Spinewine et al Ann Pharmacother 2006; JAGS 2007



# Research methods





# Qualitative vs quantitative research

## QUALITATIVE

### Approach

often exploratory work: “how” and “why”  
hypothesis generating

### Methods

interviews, observation, documents

### Sample

small and purposive

### Analysis

## QUANTITATIVE

↔ how many?

↔ hypothesis testing

↔ survey, RCT, audit,...

↔ large, random





# Optimisation approaches

- Conceptualising and developing interventions
- Study design
  - Before and after studies, time series
  - Controlled studies
- Endpoints and measurements
  - Process measures
  - Clinical, economic and humanistic outcome measures



# Organisational matters



# Organisation of PhDs

- 1 doctoral fellow + 1 main supervisor
- 1 supervising committee
  - At least 1 clinician in the field of interest
  - One expert in methodological aspects (might be an international expert)
  - Other members that might facilitate the implementation of the research project and/or support the scientific development