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

Clinical Pharmacy Research Group (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

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<thead>
<tr>
<th>QUALITATIVE</th>
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<tr>
<td><strong>Approach</strong></td>
<td><strong>how many?</strong></td>
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<td>often exploratory work: “how” and “why”</td>
<td><strong>hypothesis testing</strong></td>
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<td>hypothesis generating</td>
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<td><strong>Methods</strong></td>
<td><strong>survey, RCT, audit,</strong></td>
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<td>interviews, observation, documents</td>
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<td><strong>Sample</strong></td>
<td><strong>large, random</strong></td>
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<td>small and purposive</td>
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<td><strong>Analysis</strong></td>
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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