

# DEVELOPMENT OF A BELGIAN CLASSIFICATION SYSTEM FOR CLINICAL PHARMACY ACTIVITIES

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## BACKGROUND AND OBJECTIVE

**Background:** Standardized classification and registration of Drug Related Problems (DRP) and Pharmaceutical Interventions (PI) is essential for objective evaluation of clinical pharmacists' contribution to pharmacotherapy. However, in Belgium as well as several other countries, a nationally standardized system for daily use in hospital setting is lacking. Similarly, other existing systems are often not adapted to the hospital and/or too elaborate for daily use. This major shortcoming complicates benchmarking, feedback to management and government, and profound analysis of clinical pharmacy impact.

**Objective:** Based on literature and stakeholders' opinions, we developed and validated the Belgian CLinical Pharmacy regiStration System (Be-CLIPSS), specifically intended for daily classification and registration of clinical pharmacists' activities.

## DEVELOPMENT & VALIDATION



### SETUP

- Literature review on classification and registration systems for DRPs and PIs in hospital setting
- Questions: available systems & characteristics

### OUTCOME

- 22 formal systems identified
  - Only 8 validated
  - Only PCNE classification<sup>1</sup> compliant with all requirements for structured DRP coding<sup>2</sup>
- Large range of available DRP (5-57), PI (5-56) and additional causes (4-37)
- Most noted disadvantages of current systems
  - Absence of DRP/PI categories related to patient or organisation
  - Not adapted to hospital setting → non-validated adaptations
  - Ill-defined/not mutually exclusive categories
  - Too many categories complicating statistical analysis

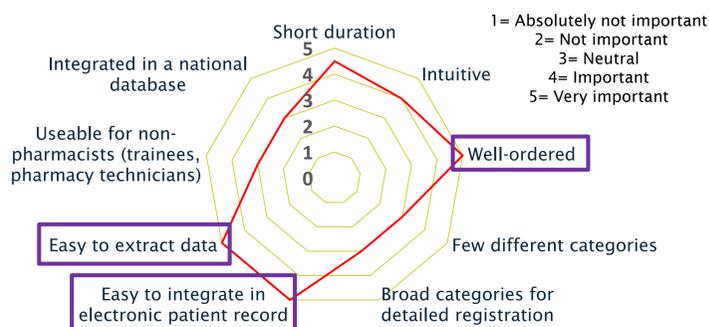


### SETUP

- Nation-wide electronic survey (Snap® Surveys; 18/06/2018 - 15/07/2018)
- All Belgian hospital pharmacists and trainees with at least one clinical activity
- Questions: current clinical activity registration practice & prerequisites for optimal DRP and PI registration

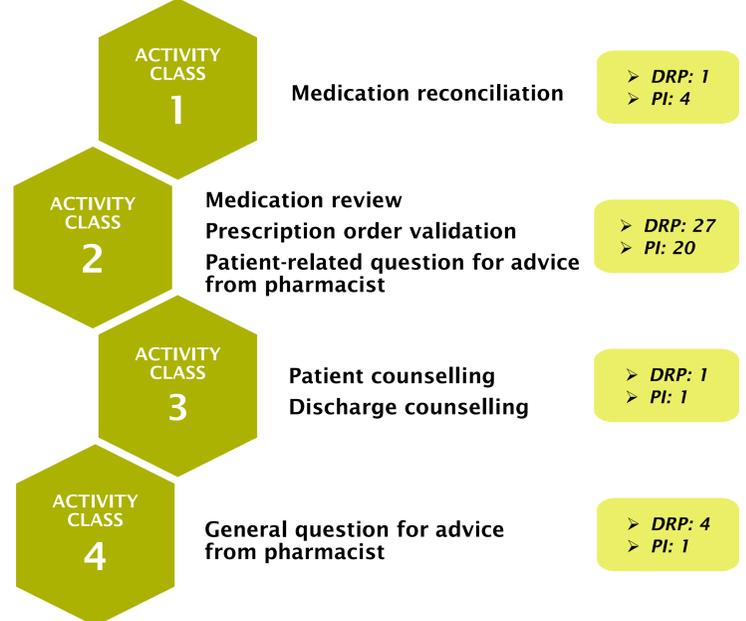
### OUTCOME

- 66 respondents - 39 hospitals, various experience levels
- Characteristics of optimal DRP and PI registration system



### SETUP

- Preselected DRP and PI according to type of clinical pharmaceutical activity



- DRP and PI can be registered either both or separate, depending on local needs
- Can be supplemented with acceptance rate, impact and involved drug

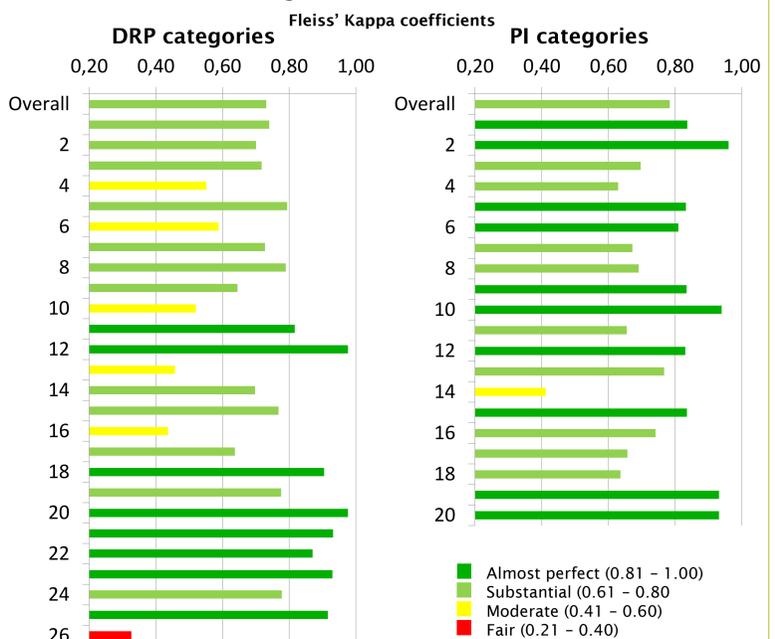


### SETUP

- Nation-wide electronic survey (Snap® Surveys; March - April 2019)
- Classification of DRPs and PIs in 45 theoretical cases (only Activity Class 2) with calculation of Fleiss' kappa
- Assessment of interpretability, user-friendliness, user satisfaction and usefulness in daily practice

### OUTCOME

- 44 hospital pharmacists - 31 hospitals
- Overall DRP inter-rater agreement:  $\kappa=0.731$  (95%CI: 0.729-0.733)
- Overall PI inter-rater agreement:  $\kappa=0.784$  (95% CI: 0.782-0.787)



- 86%: good interpretability
- 62%: user-friendly
- 84%: satisfied
- 69%: agree to use in daily practice
- Improved descriptions
- Provide examples
- Only 4 additional options suggested



### SETUP

- Representatives of major Belgian hospital pharmacies, trainees, pharmacy faculties and governmental healthcare institutions
- Discussion on survey results, (future) policy needs and preliminary version of Be-CLIPSS
- Date: September 2018

### OUTCOME

#### REGISTRATION OBJECTIVES

"So, depending on the objective, the registration system is a bit different"

"What are the principal interventions and can't we introduce tools [...]?"

#### PRELIMINARY VERSION BE-CLIPSS

"It's very good to have a national classification system"

"I like the different activity categories, it's a logical structure to start the registration."

#### NATIONAL SYSTEM

"Everyone has their own methodology, so one cannot easily compare[...]."

"I think it should be one system, so we don't have to do a separate registration [for the government]."

#### BOTTLENECKS

"In the beginning, we registered a lot of items, while we didn't use or report them."

"Some colleagues perceive it as very labor-intensive."

## CONCLUSION

The Be-CLIPSS system, adapted to Belgian clinical pharmacy activities, was developed and validated, and was well received by hospital pharmacists. Based on the first round, small adaptations were made which are currently under validation. To promote the use of the Be-CLIPSS, a white-paper is under preparation and will be provided to Belgian hospital pharmacists, academics and governmental healthcare institutions. Equally, an electronic version of the Be-CLIPSS will be integrated in the PrimUZ® electronic patient file system to allow simultaneous registration.

<sup>1</sup>The PCNE Classification V 8.03. Available: <https://www.pcne.org/working-groups/2/drug-related-problem-classification>.

<sup>2</sup>Van Mil F. et al. Drug-Related Problem Classification Systems. Ann Pharmacother. 2004;38(5):859-6



<https://www.eahp.eu/25-4CPS-168>

