

# The Pharmacotherapy team: A novel multidisciplinary strategy using Participatory Action Research to improve appropriate in-hospital prescribing

Rashudy F. Mahomedradja<sup>1,2</sup> & J.K. Bekema<sup>1,2</sup>, David J. Brinkman<sup>1,2</sup>, Kim C.E. Sigaloff<sup>1</sup>, Marianne A. Kuijvenhoven<sup>3</sup>, M.A. van Agtmael<sup>1,2</sup>

1. Dept. of Internal Medicine, Section Pharmacotherapy, Amsterdam UMC – location VUmc 2. RECIPE (Research & Expertise Center In Pharmacotherapy Education), Amsterdam, the Netherlands 3. Dept. of Clinical Pharmacology and Pharmacy, Amsterdam UMC – location VUmc

## Conclusion

The Pharmacotherapy team is a novel, multidisciplinary team. This is the first study aiming to improve appropriate prescribing by using Participatory Action Research (PAR). Critical success factors of PAR are intrinsic motivation and dedication.

Improving appropriate prescribing is not a quick fix but instead needs permanent focus and awareness. By being pro-actively involved in daily practice, appropriate prescribing should increase and medication errors should reduce. In the future the Pharmacotherapy team will focus on 4 pillars based on success factors and interventions of current findings and results.

## Background

- 5-7% of all hospital admissions are related to medication  
→ ± 66% due to inappropriate prescribing
- In-hospital prescribing is a complex matter.
- Sustainably and effectively improving appropriate prescribing involves a multidisciplinary collaboration and knowledge on root causes.

## Method

From June 2015 - April 2018 the Pharmacotherapy team quantified the occurrence of PEs on 12 clinical wards of Amsterdam UMC – location VUmc. Severity of PEs were assessed using to the NCC MERP\*\* classification. The Bow-Tie method was used to identify root causes inducing inappropriate prescribing per clinical ward. Subsequently, PAR was used to compile tailor-made improvements per clinical ward.

## Aim

To improve appropriate in-hospital prescribing, involving a multidisciplinary 'Pharmacotherapy team' (physicians and pharmacists) using Participatory Action Research (PAR) to collaborate with other involved in-hospital stakeholders (medical specialists, junior doctors and nurses).

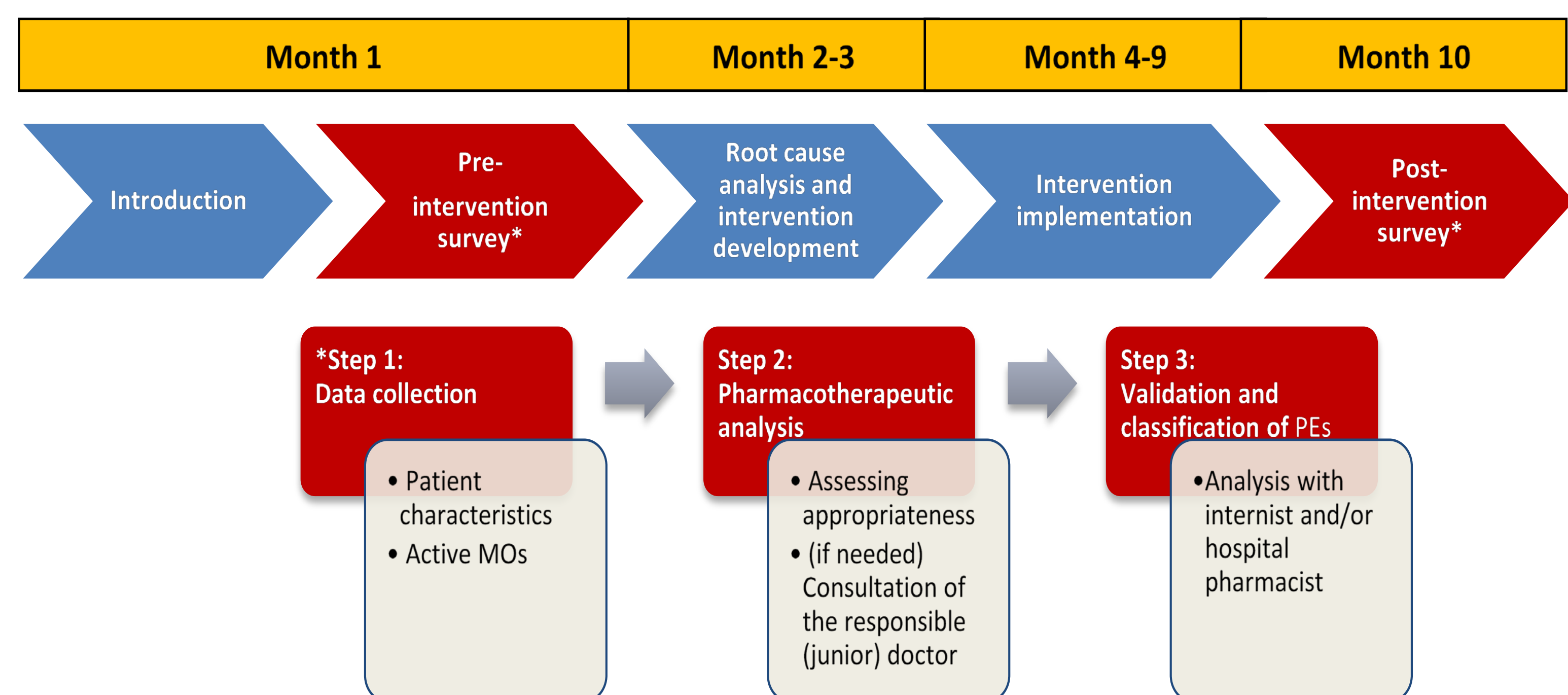
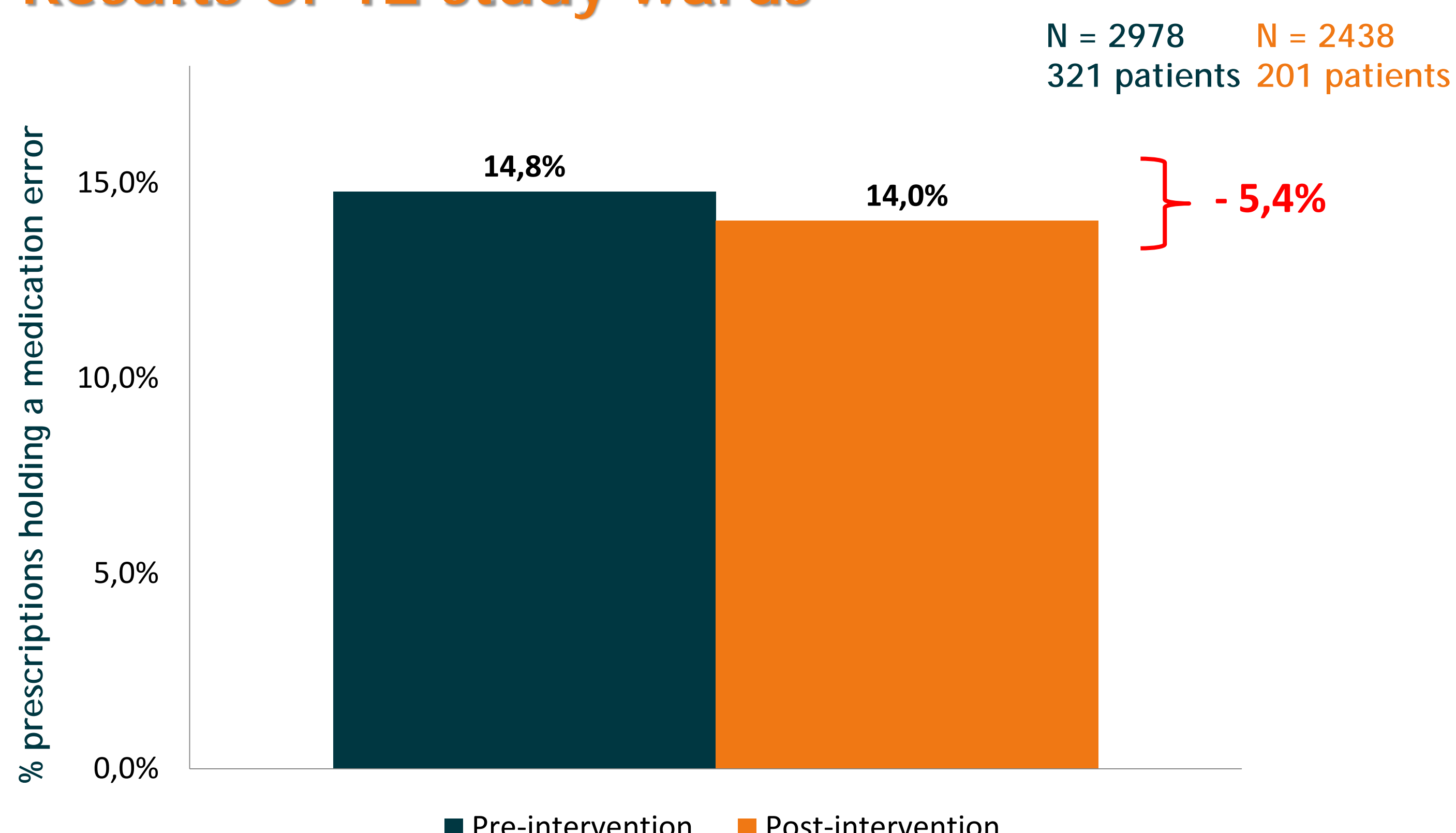


Figure 1: Trajectory per clinical ward in the Amsterdam UMC – location VUmc

## Results of 12 study wards



## Hospital wide interventions resulting from PAR

- E-learning for new, junior doctors
- Bottleneck reduction in EPIC® and guidelines
- Medication review training for clerks and junior doctors

|          | Definition   | Example  |
|----------|--|--|
| <b>B</b> | An error occurred but did not reach the patient  | Medication at admission (MaA) (e.g. inhalation medication) was not ordered in EPIC®, however the patient was using it during admission.              |
| <b>C</b> | An error occurred that reached the patient but did not cause harm                        | Patient used 1000 mg calcium carbonate at home. At admission, 500 mg was prescribed.   |
| <b>D</b> | An error occurred that resulted in the need for increased patient monitoring but no harm | - A PPI was prescribed, however there was no indication.<br>- Indication for therapeutic Fraxiparin®, however patient received prophylactic dosages. |
| <b>E</b> | An error occurred that resulted in the need for intervention and caused temporary harm   | - Opioid-related obstipation and no laxative was prescribed.<br>- Gliclazide (MaA) was forgotten → irregulated diabetes.                             |

