

Sweden

Discrepancies in patient information about the prescribed drugs -

- risk for interpretation errors, medication errors,
and adherence errors, hoarding and unused drugs

EMR

84% of patients (≥ 5 prescriptions) had ≥ 1 non-current or a duplicate or a missing prescriptions in the EMR

30% of the prescriptions were non-current (13%), duplicates (10%) or missing (7%)

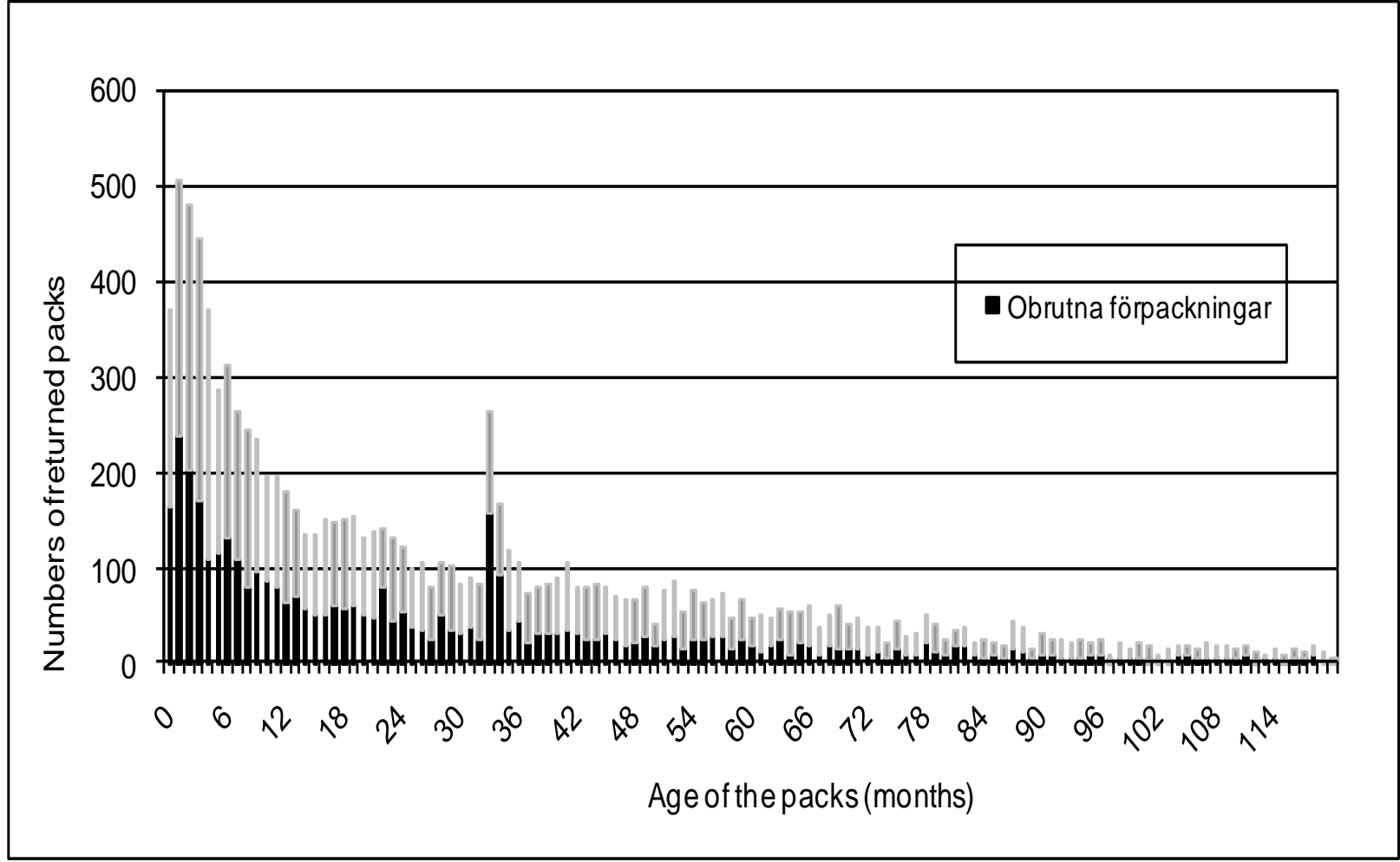
a significant improvement in validity was achieved if the GP received the drug list with notifications from a short interview with the patient before the follow-up visit

NPR

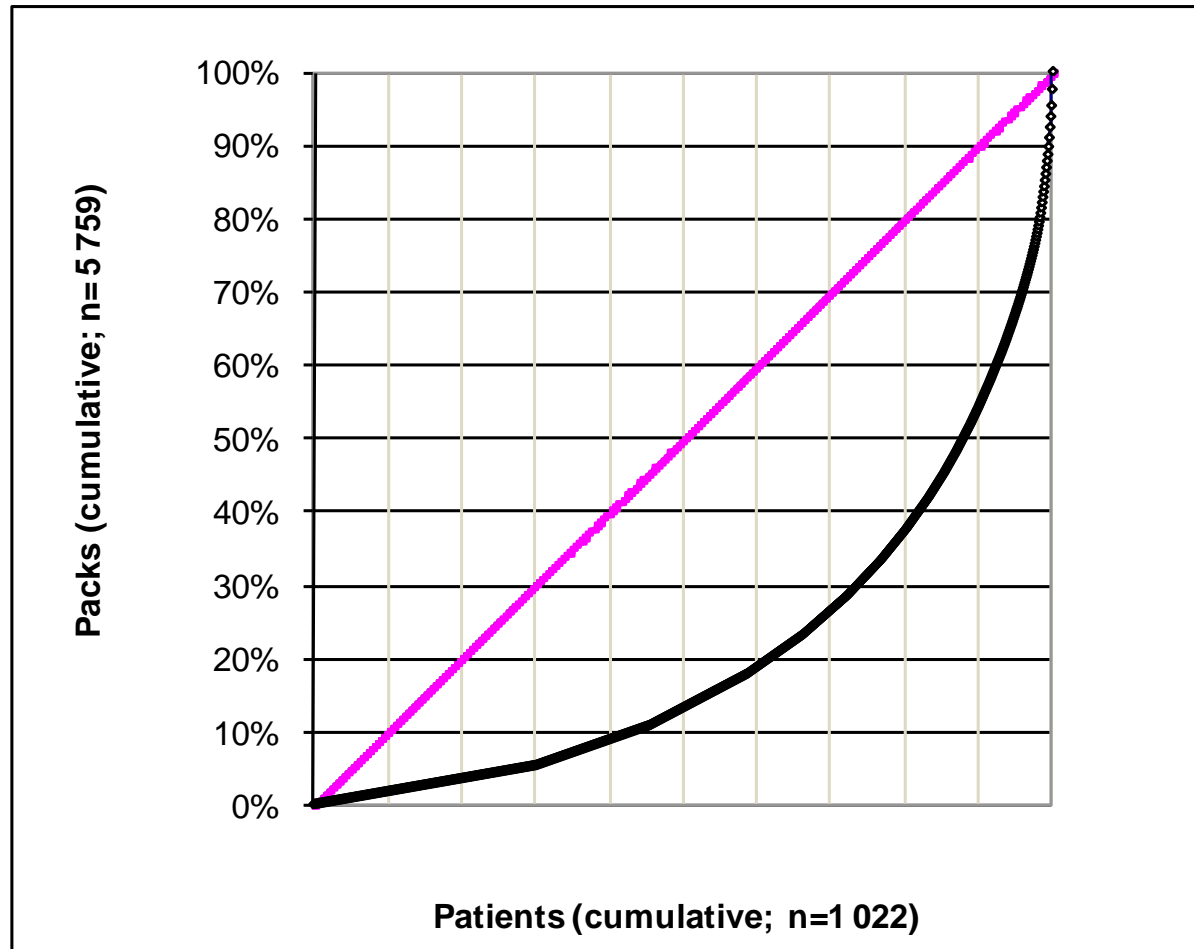
89% of patients had
≥1 non-current or a duplicate or a missing prescription in
the NPR

40% of all prescriptions in the NPR were
non-current (10%), duplicates (10%) or missing (20%)

11% of patients had stored prescriptions fully congruent
with the current, ongoing prescribed therapy



Returned unused packs to Swedish pharmacies; cumulative data; (Gini-coeff.=0.58; n=1 022/5 759)



after Ekedahl -07

Reasons why the returned medicines hadn't been used (n=1.022/5 414)

Terminated or changed treatment >50%

Expiry date passed ~20%

Death of patient ~20%

after Ekedahl -07

Sweden

3 information sources for patients
about the prescribed treatment

-a printout from EMR

- a printout of the prescriptions stored in the NPR

- the dispensed packs with
pharmacy label and package inserts

Which one should he/she rely on?

Sweden

- Prescribers/Doctors are only allowed to see the prescriptions in the NPR if the patient gives informed consent to her/him;
- Prescribers/Doctors are neither allowed, nor able to institute any changes in the prescriptions in the NPR

Sweden

- only pharmacists are able to make changes in the prescriptions in the NPR – but on patient request only;

Sweden

Consequence:

prescriptions for the current, prescribed treatment
in the NPR, BUT

ALSO prescriptions for NON-current treatment, (previously
changed or terminated) AND prescription duplicates

Due to the generic substitution –
other dispensed brands than listed in the EMR and the NPR

What is the occurrence of

- non-current prescriptions,
- prescription duplicates, and
- missing prescriptions

in the NPR and the EMR?

Patients recruited at pharmacies
(3 clusters/cities)

Patients recruited at Health Care Centres
(5 clusters/cities)

Randomized controlled intervention
(1 HCC)

Inclusion criteria:

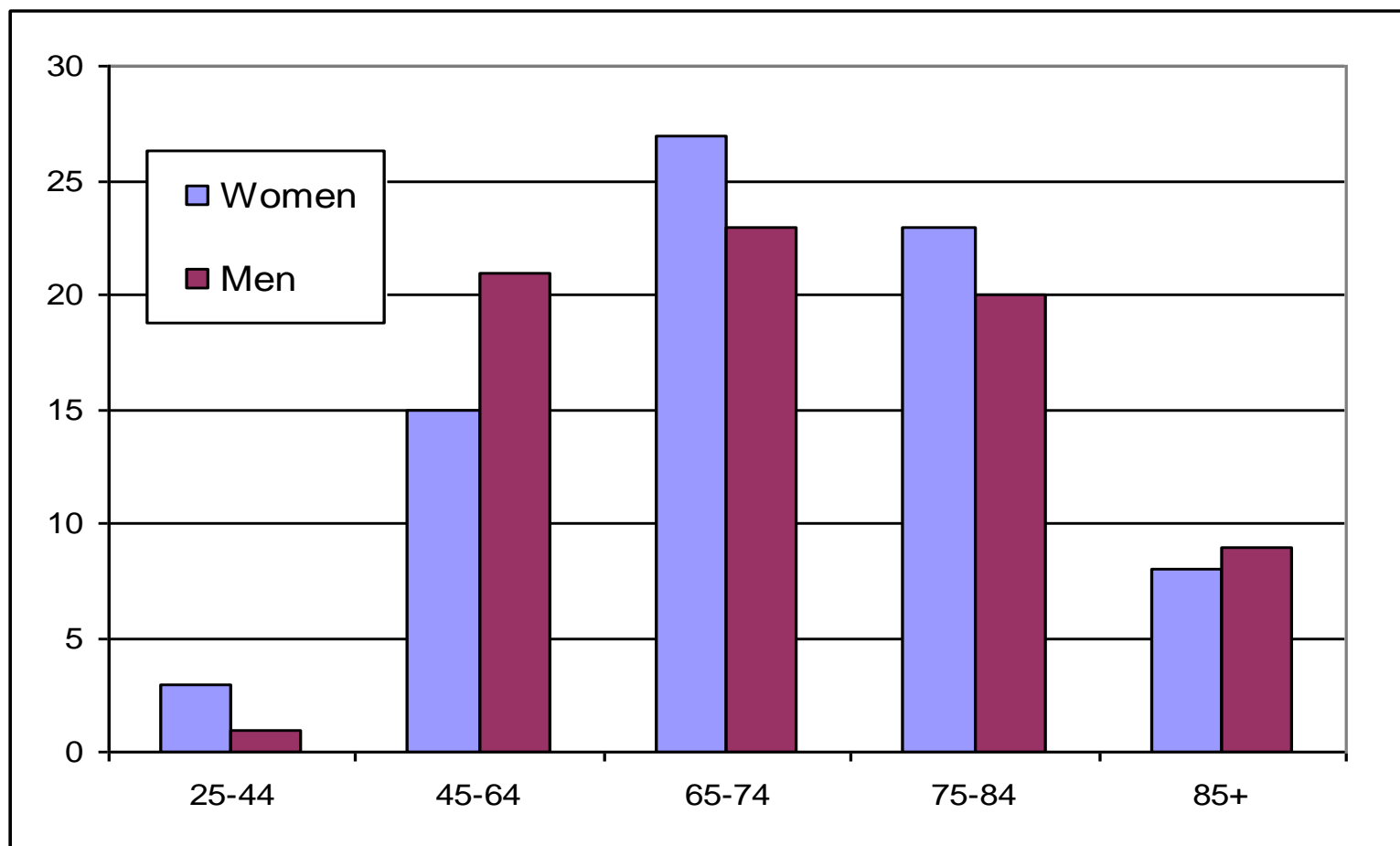
- written informed consent
- ≥ 18 years of age
- listed/registered for the NPR
- ≥ 5 prescriptions in the EMR and/or the NPR

Exclusion criteria:

- Representative
- Multi-dose-dispensed drugs from the pharmacy
- Cognitive dysfunction
- Language barrier

218 patients with altogether 2.371 prescriptions
recruited at Health Care Centers in Sweden

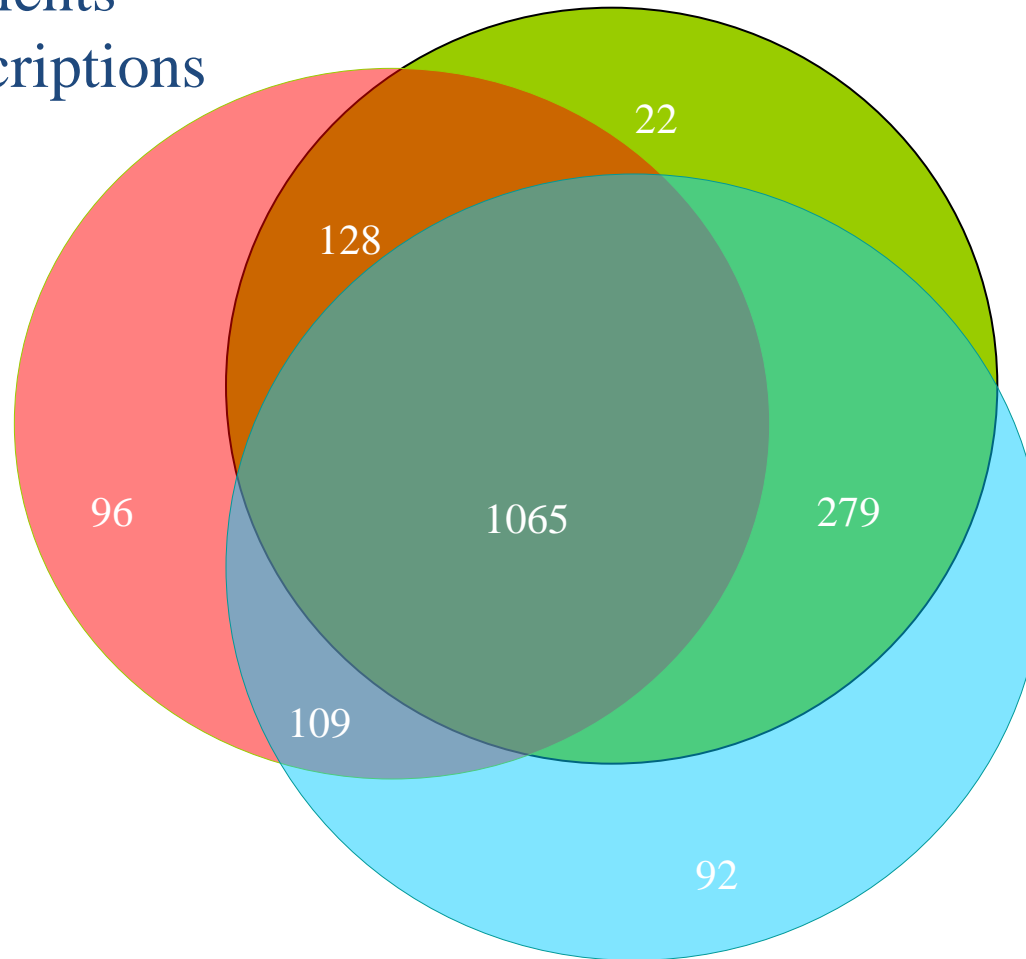
EMR – distribution of patient age and gender (n=218)



**Overall
congruence 53%**
218 patients
2,371 prescriptions

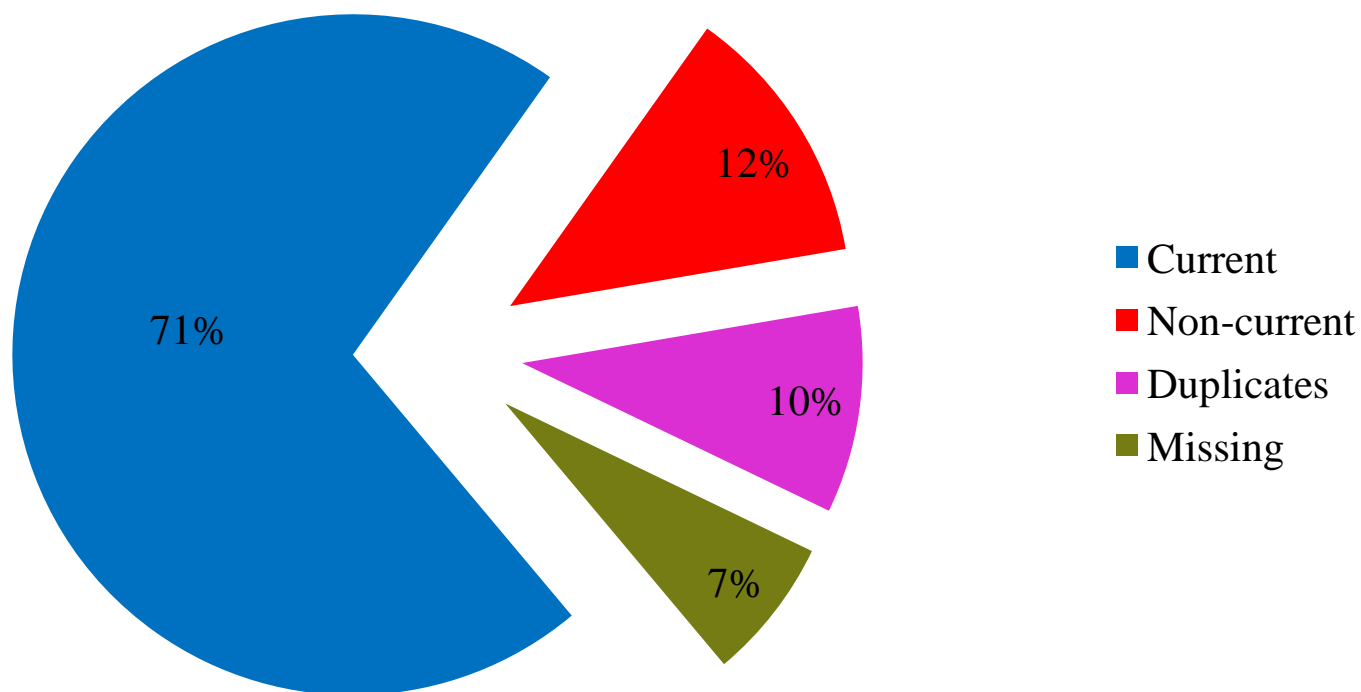
**Stated by patients
(n=1,789)**

**NPR
(n=1,908)**

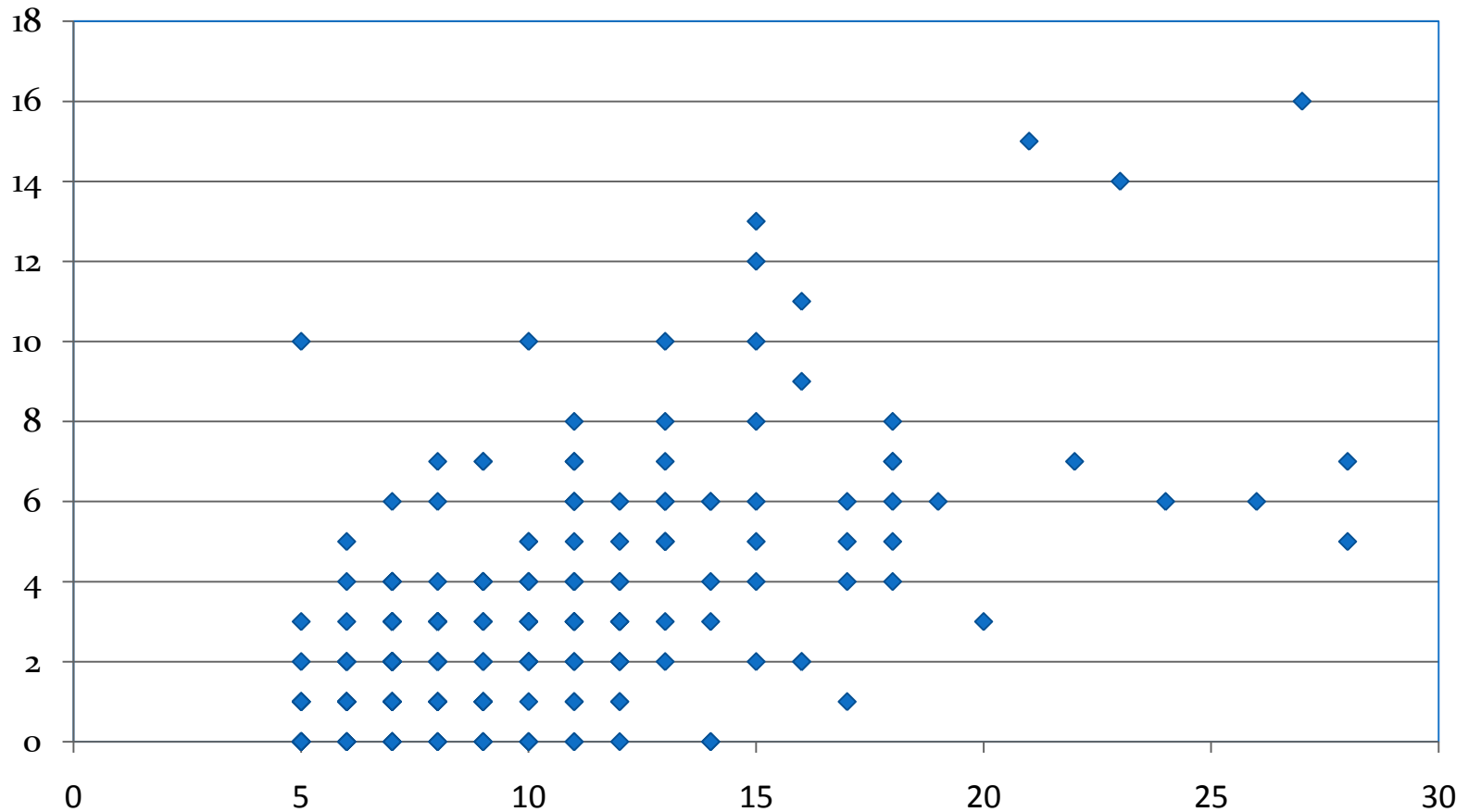


**EMR
(n=2,211)**

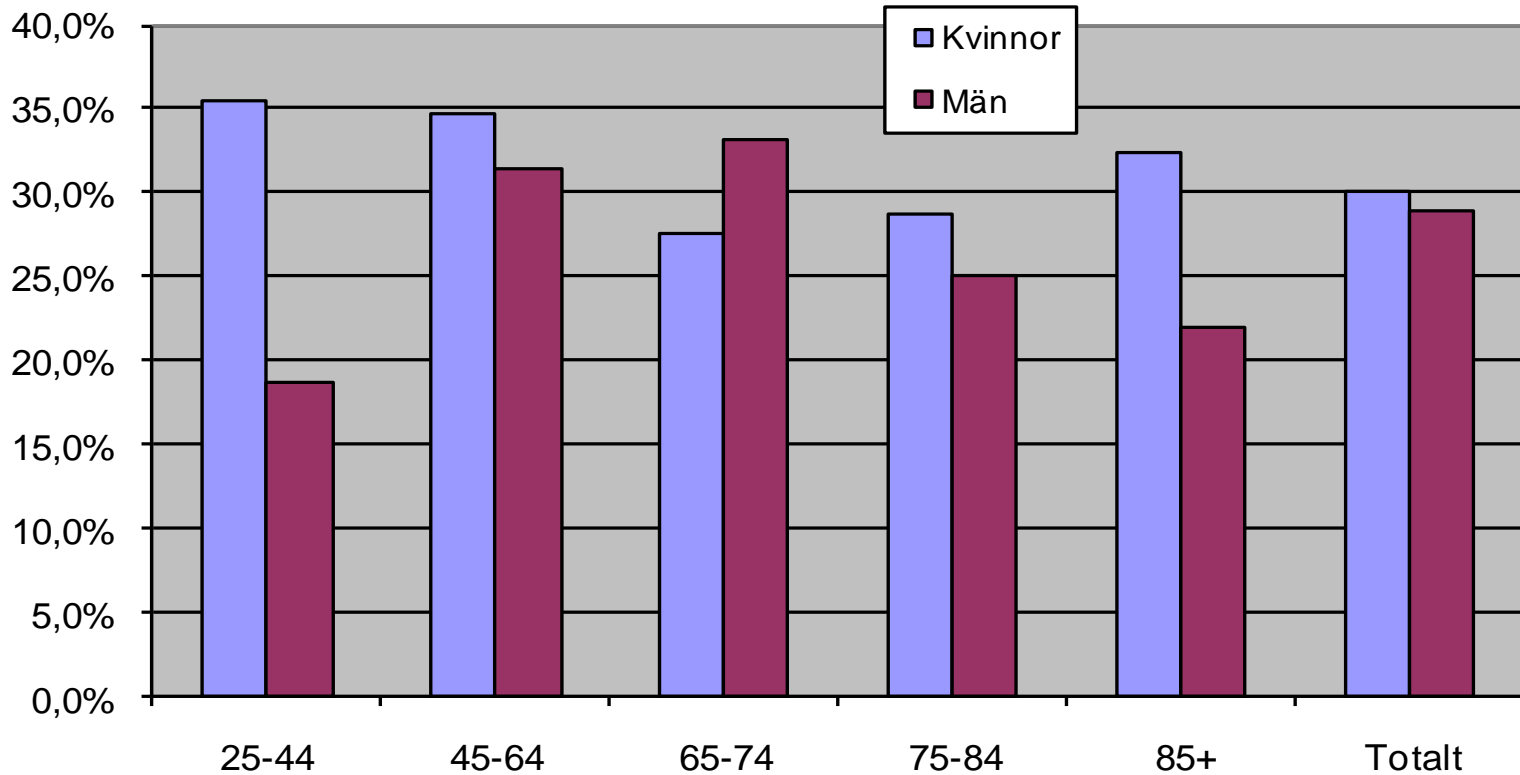
EMR - non-current prescriptions, duplicates and missing prescriptions (n=218 patients, 2,211/2,371 prescriptions)



EMR - correlation between discrepancies and numbers of prescriptions (r=0.70; 218 patients; 683 discrepancies; 2,211/2,371 prescriptions)



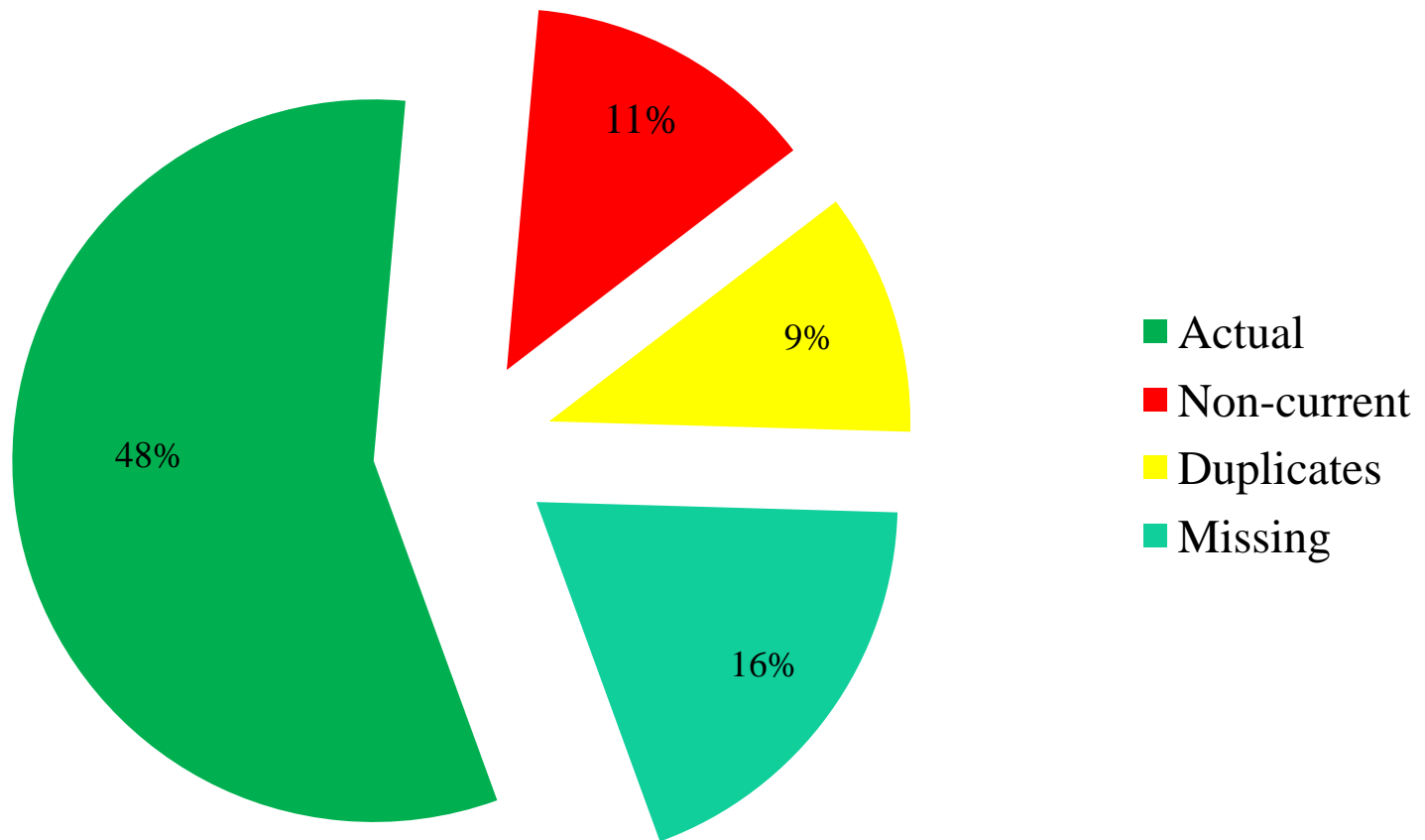
**Discrepancies in relation to age and gender
- women (n=76/913) and men (n=74/856)**



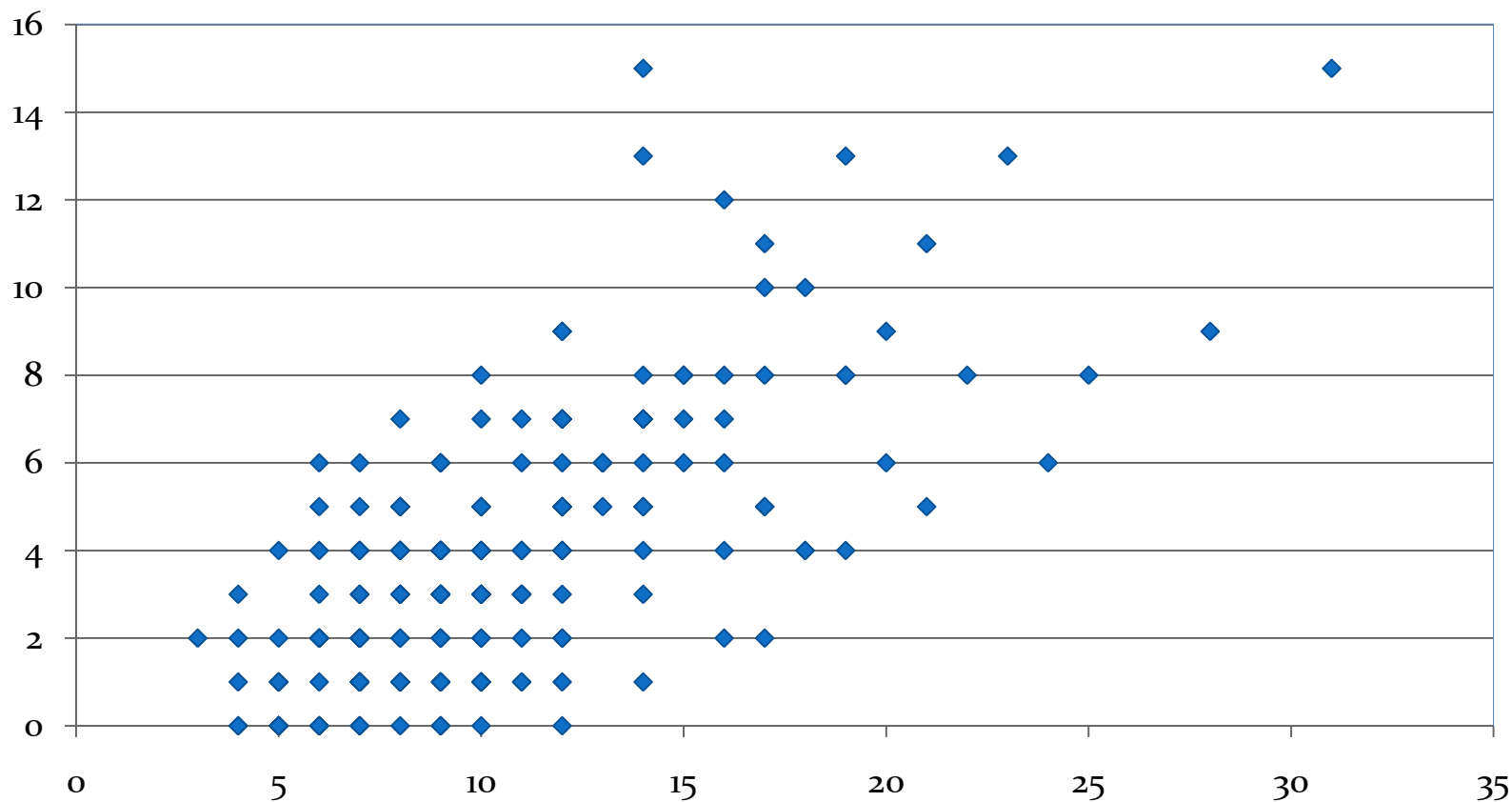
EMR - discrepancies (n=2,211/2,371)

EMR	Non-current prescriptions	Duplicates	Double-medication	Missing prescriptions	Total	Discre – pancies
Common EMR	187	165	8	86	446/ 1,824	24.5 %
Local EMR	51	68	2	72	193/ 545	35.4 %
Total	238	233	10	158	639/ 2,371	27.0 %

NPR - non-current prescriptions, duplicates and missing prescriptions (n=218 patients, 2,268 prescriptions)



NPR – discrepancies in relation to numbers of prescriptions (r=0.77; 218 patients; 828 discrepancies; 1,789/2,268 prescriptions)



Random sample of patients with diagnoses
NIDDM/IDDM; CHF or Arthrosis
at one Health Care Center

161 patients were invited to the study with an invitational letter

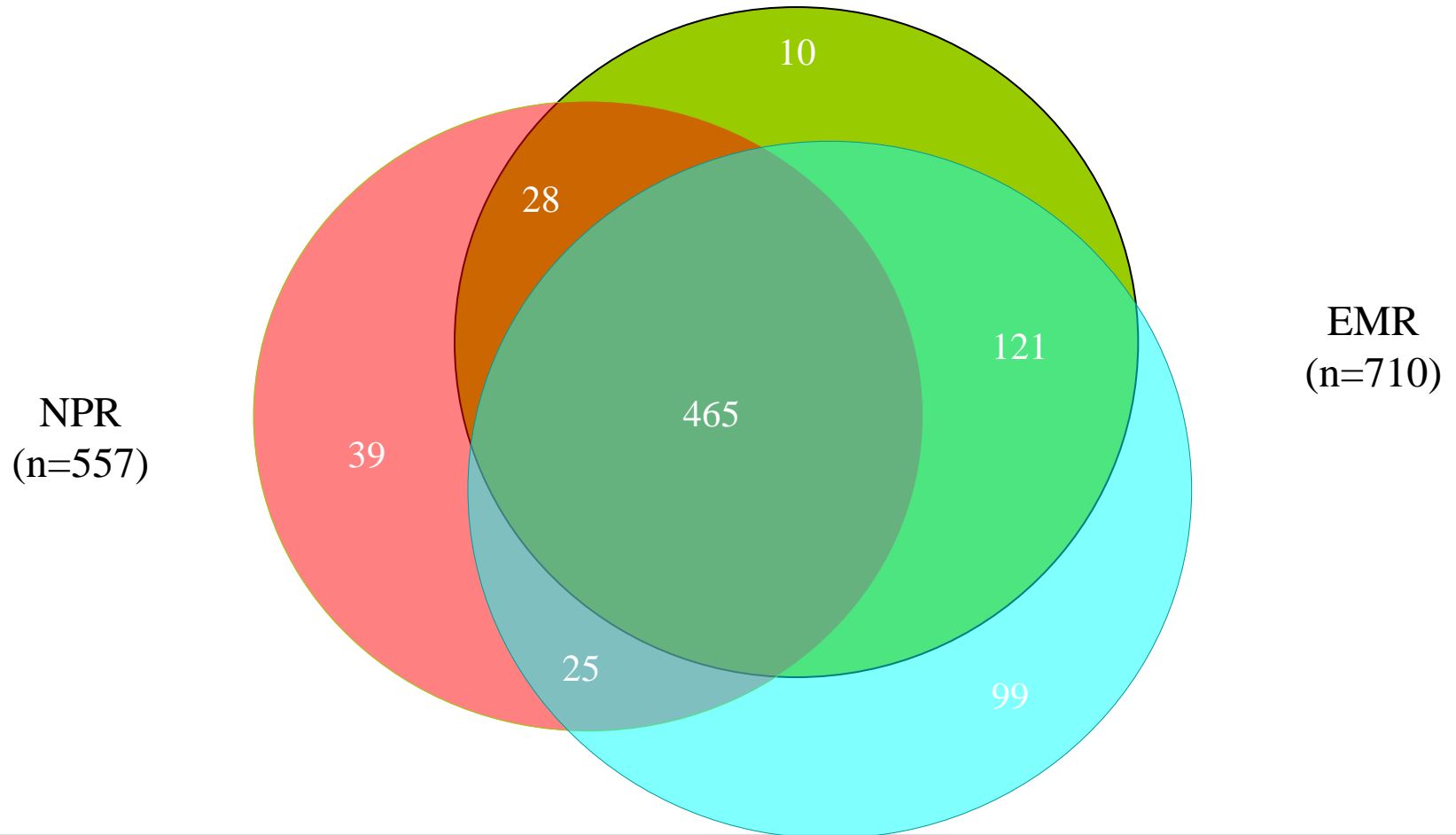
78 (48%) fulfilling the inclusion criteria
gave informed consent to participation
(Arthrosis 29 -58%; IDDM/NIDDM 26 – 52%
and CHF 23 – 38%)

Congruence 59%

78 patients

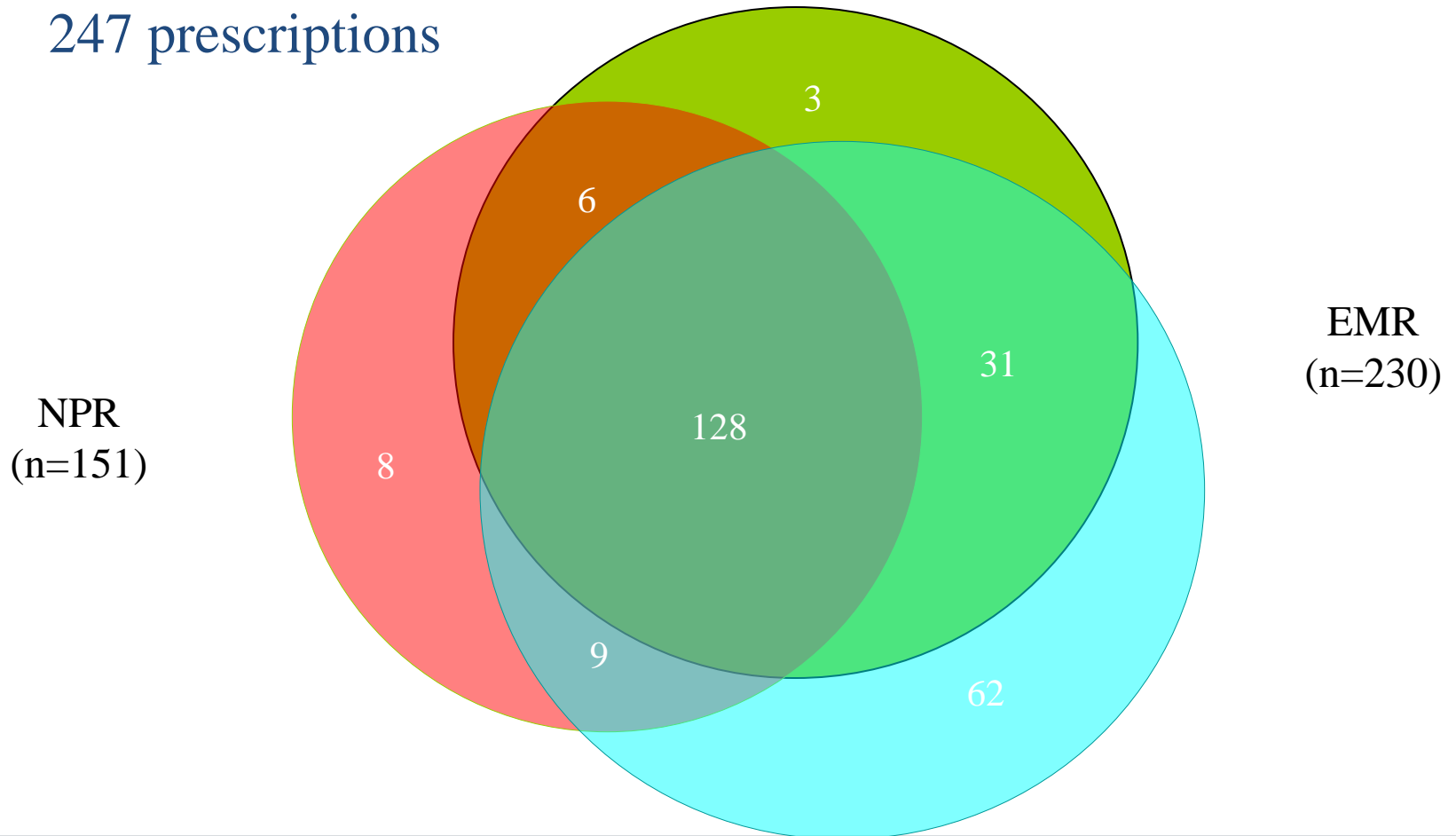
787 prescriptions

Stated by the patients (n=624)



Arthrosis
 Congruence 52%
 29 patients
 247 prescriptions

Stated by patients
 (n=168)



CHF

Congruence 63%

23 patients

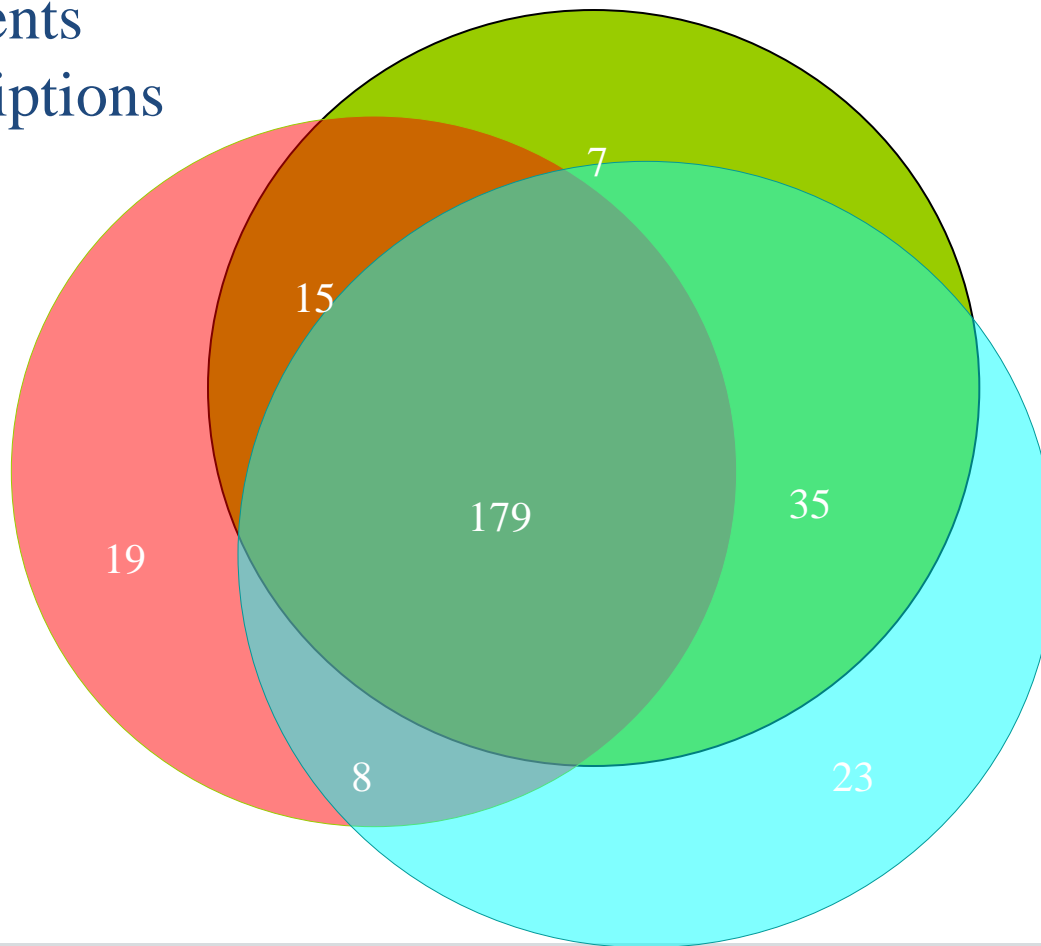
286 prescriptions

Stated by patients

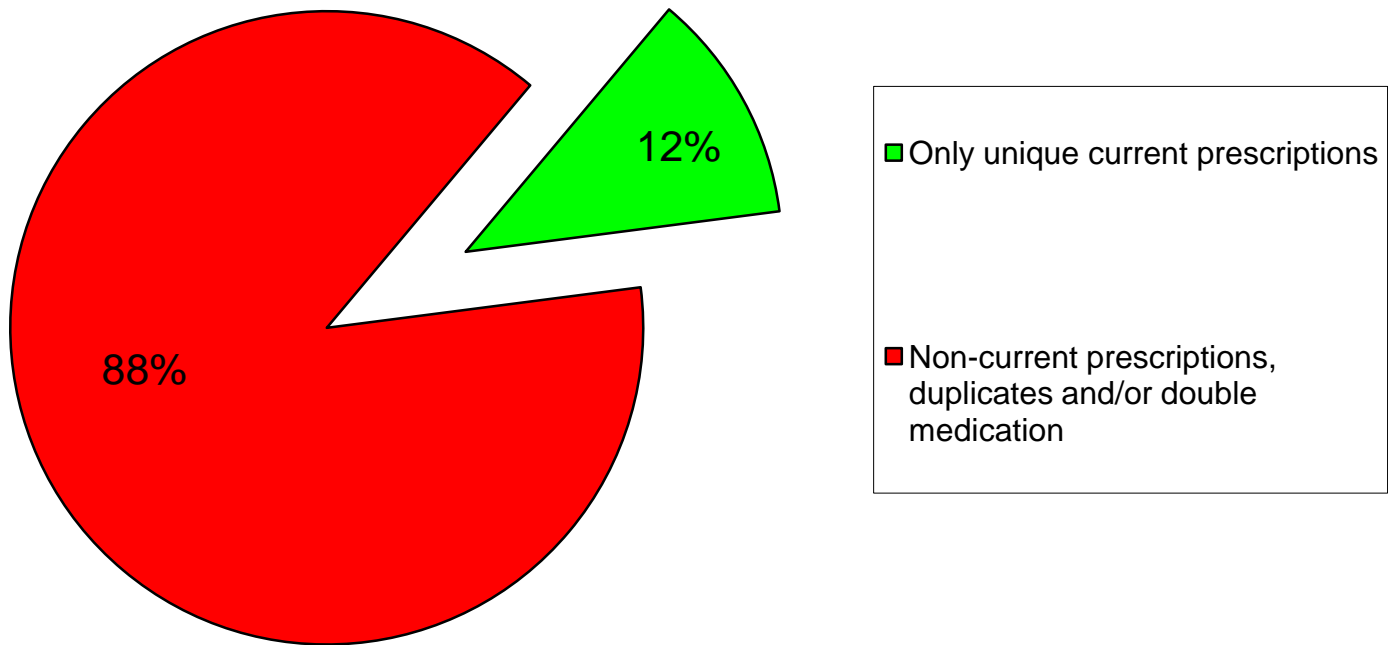
(n=236)

NPR
(n=221)

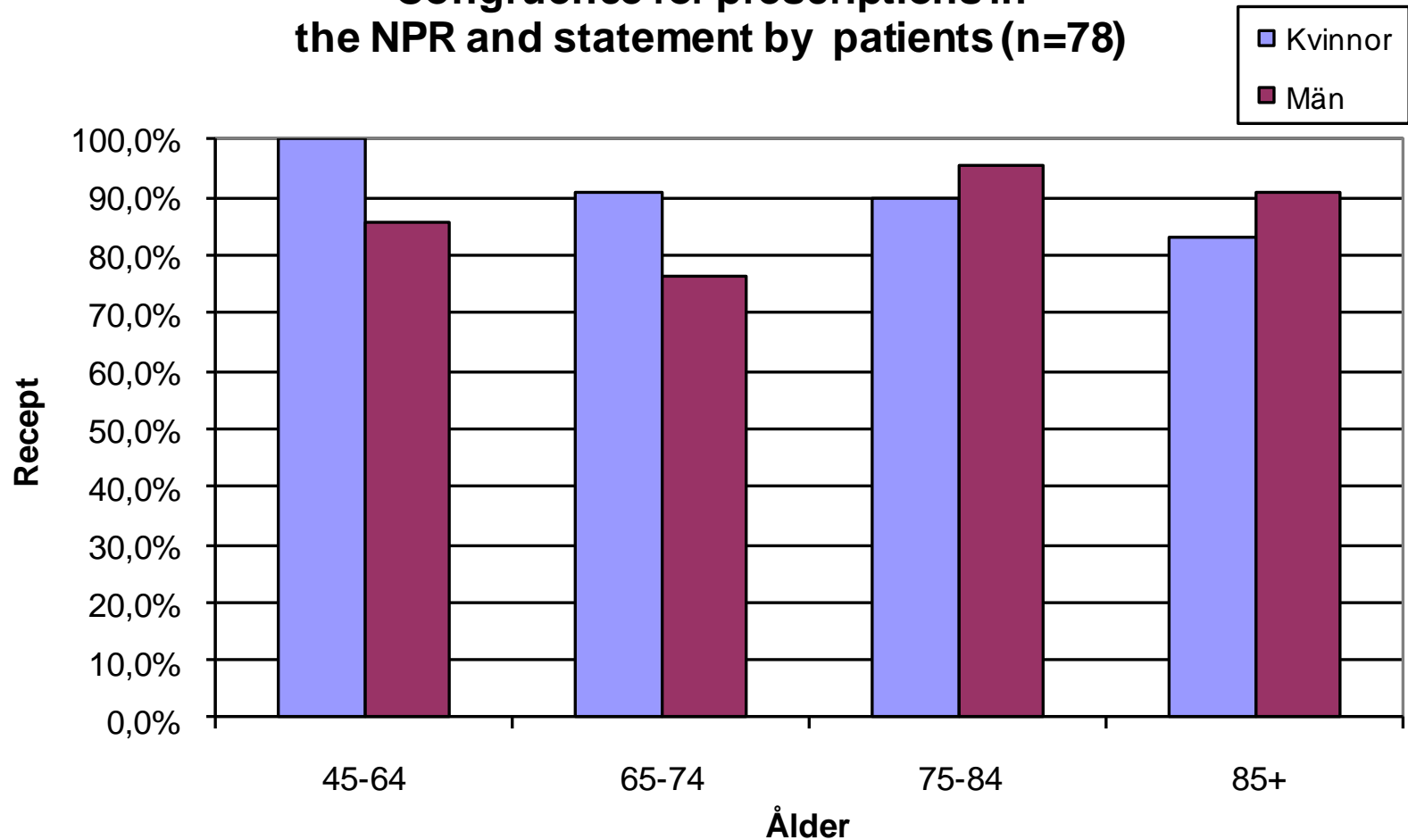
EMR
(n=245)



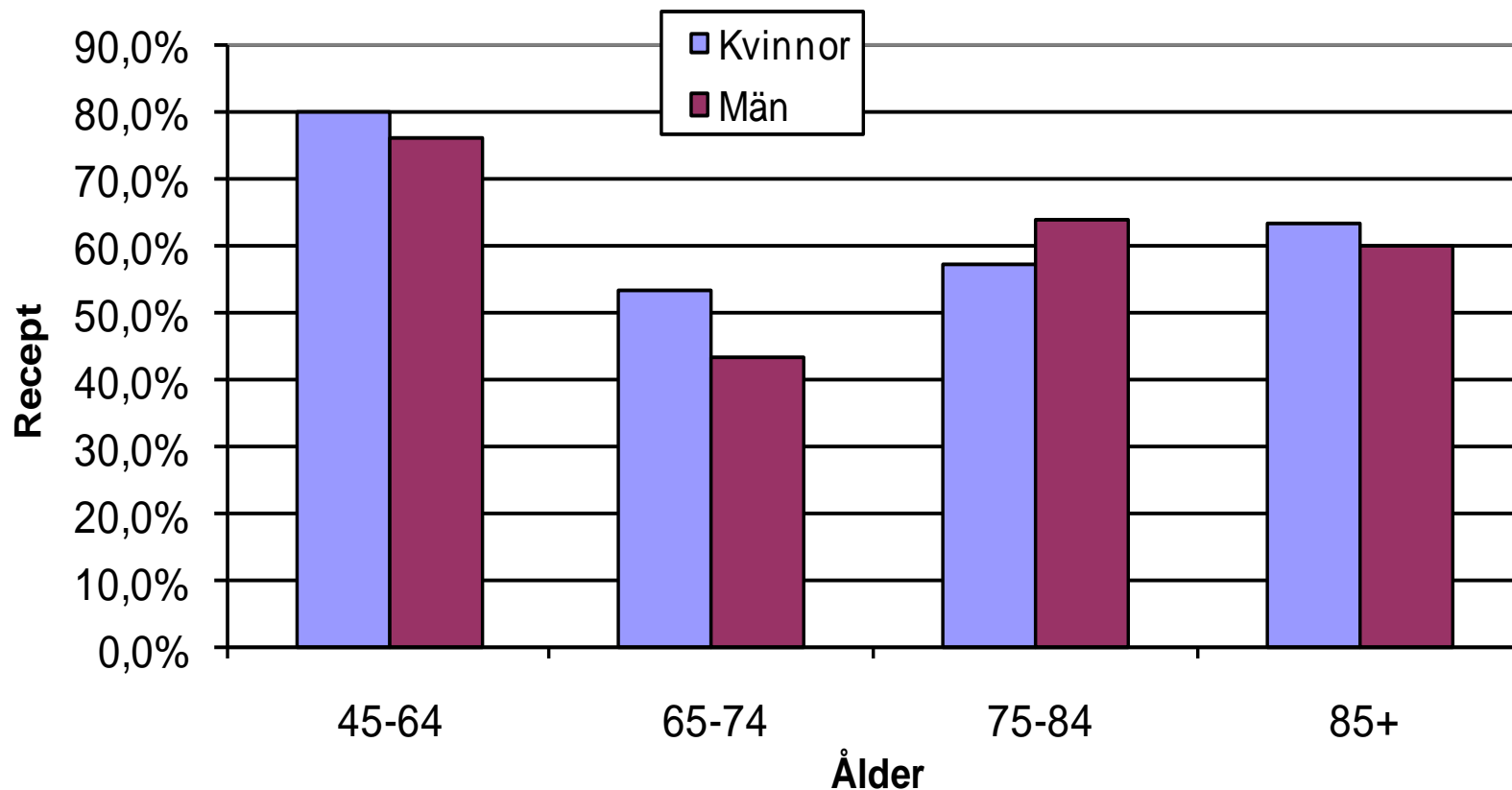
Patients with total congruence between prescriptions in the NPR and current prescribed treatment (n=78)



Congruence for prescriptions in the NPR and statement by patients (n=78)



Congruence for prescriptions in the EMR, NPR and statement by the patient (n=78)



Randomized controlled intervention

Patients were interviewed at the HCC immediately before the follow-up visit to the GP on the prescriptions listed in the EMR

Notification on the list – A=Actual, current treatment; I=Non-current; O=unsure/not known; D=Duplicate prescription;

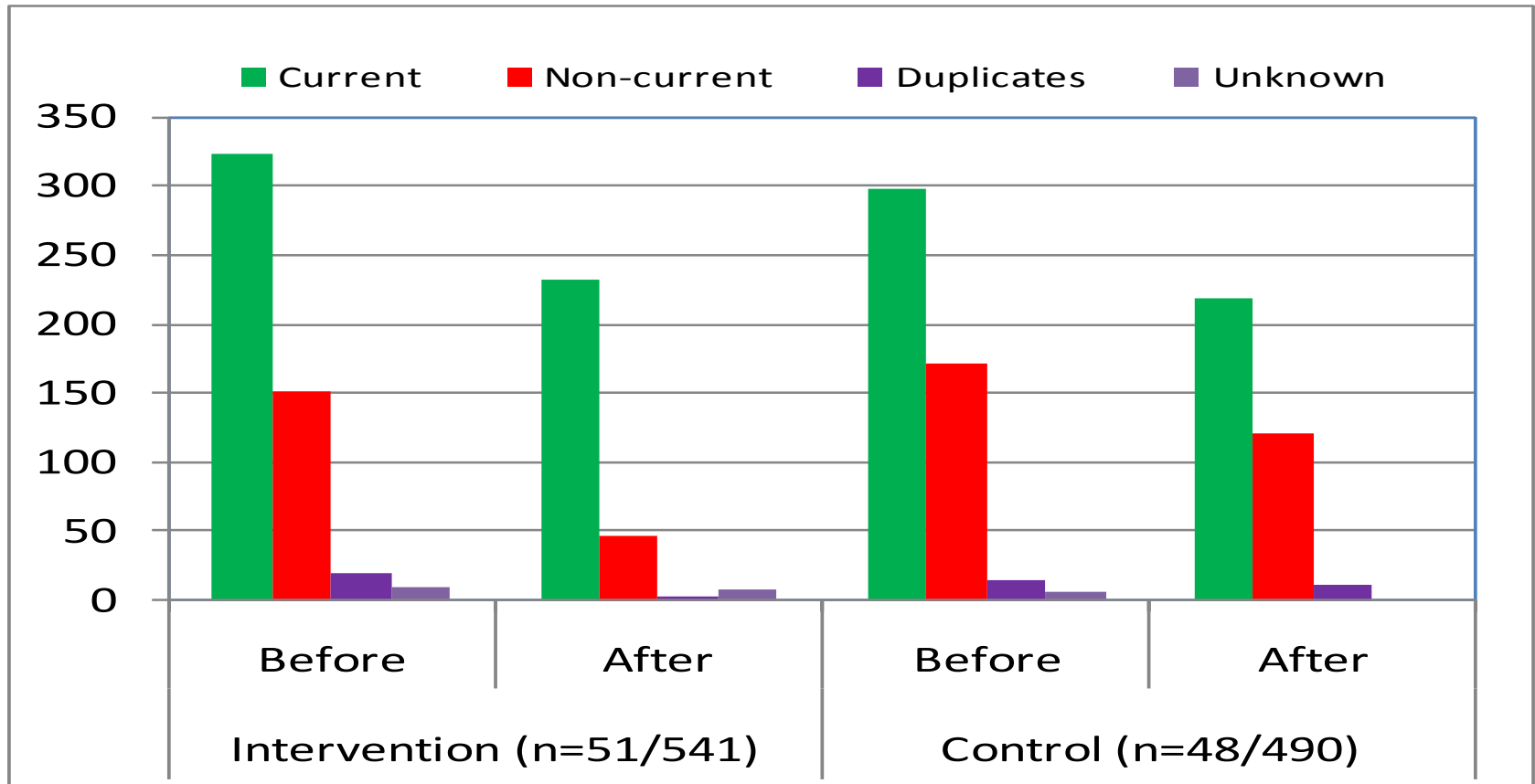
All patients are encouraged to ask the pharmacy to help cleaning the NPR from non-current and duplicate prescriptions

Intervention group – the patient receives the list and brings it to the GP to discuss

Control group – the patient does not receive the list

Intervention – at the follow-up visit

Preliminary results for EMR (n=99/1,031)



Intervention group vs Control group Before: ns; after: $p < 0.001$

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non-current (10%), duplicates (10%) or missing (20%)

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with the current, ongoing prescribed therapy

Conclusion:

There are many discrepancies in patient s information
on the prescribed current treatment -

- risk for interpretation errors, medication errors,
and adherence errors, hoarding and unused drugs

Anders Ekedahl, Medical Products Agency, Sweden

anders.ekedahl@mpa.se

Questions?