



# Polifarmacia en nuestros pacientes ¿Qué debemos hacer?

Jesús Díez Manglano

Medicina Interna. Hospital Royo Villanova. Zaragoza

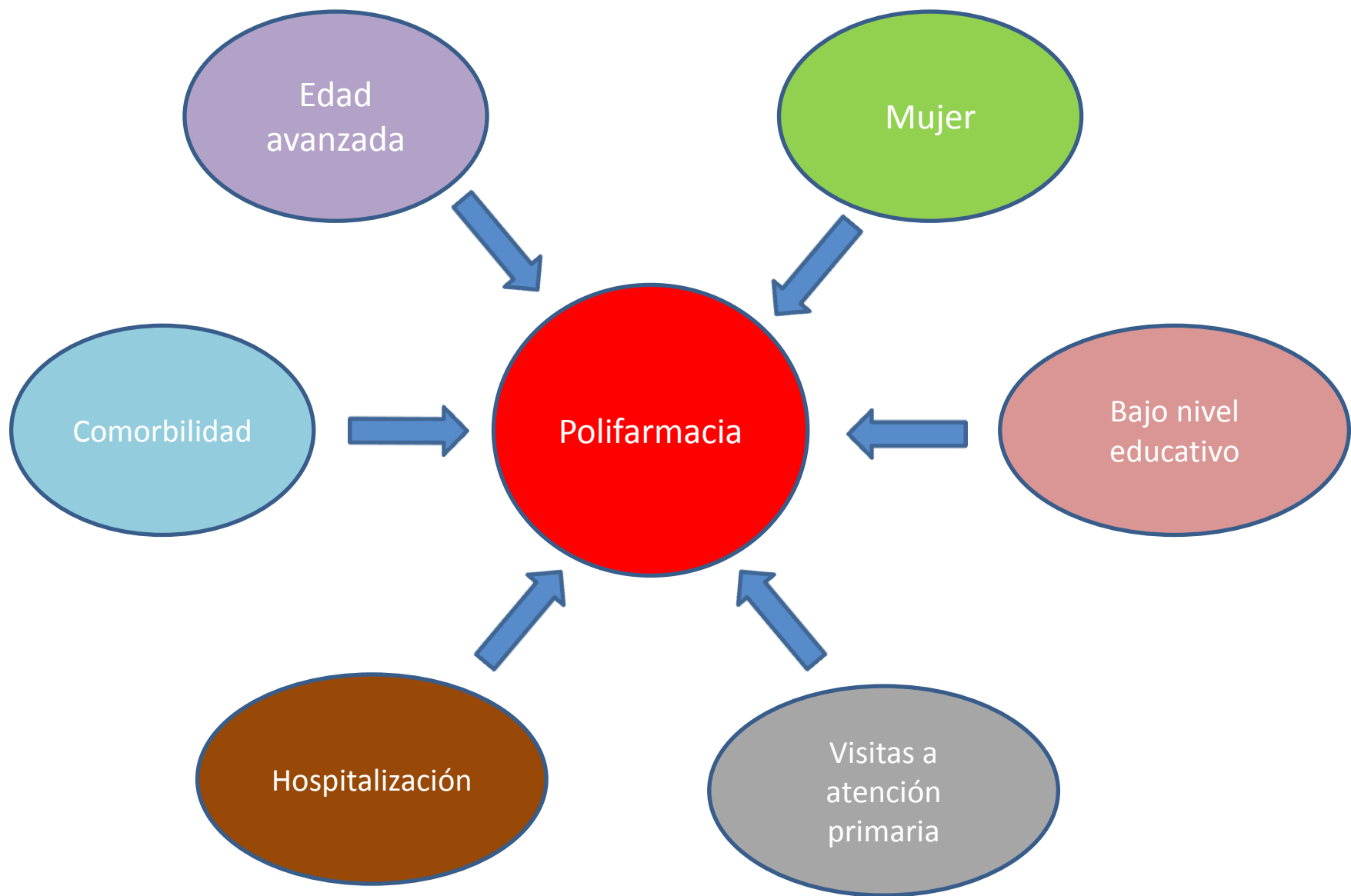
Grupo de Investigación en Comorbilidad y Pluripatología de Aragón

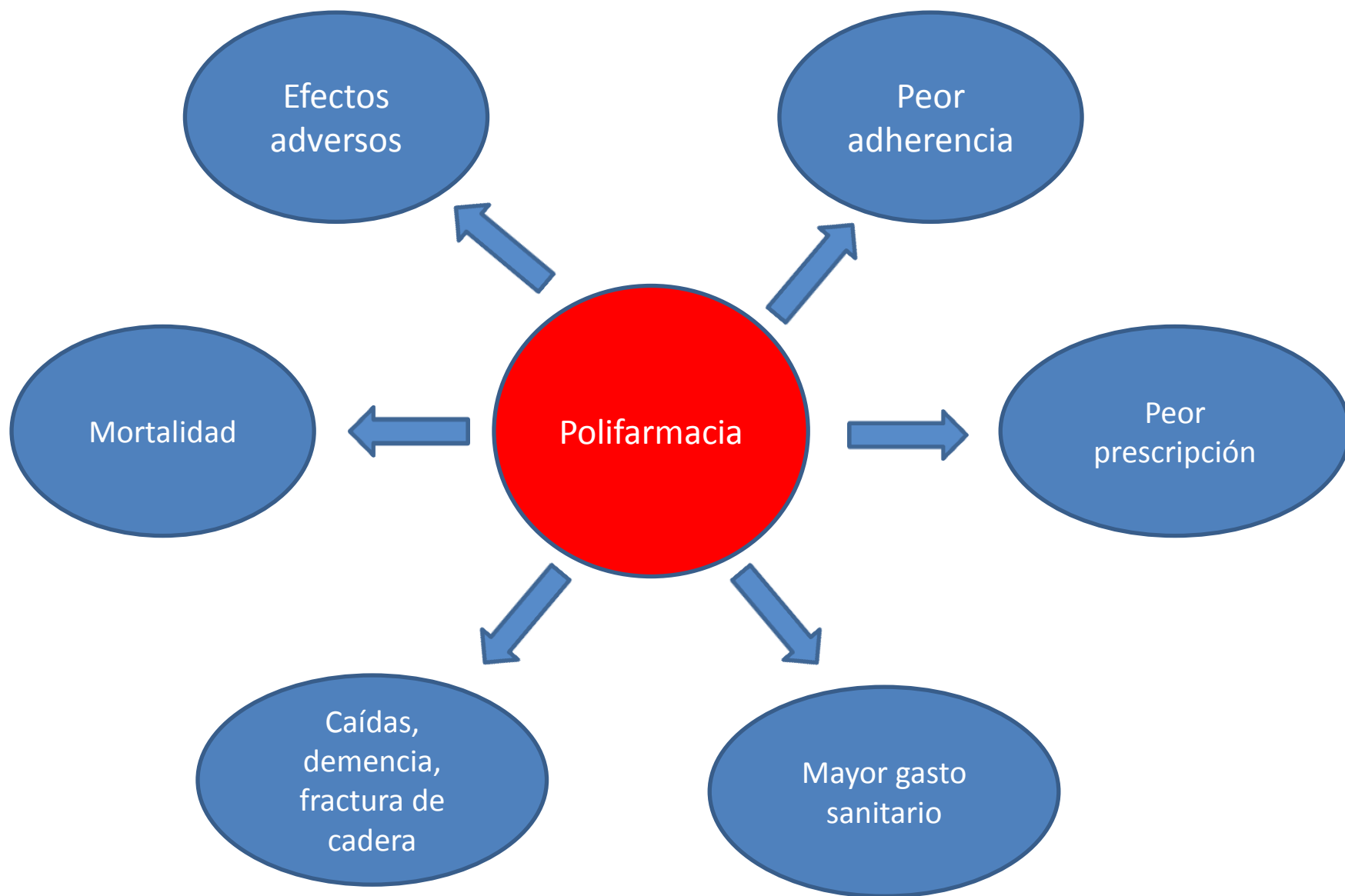
- Polifarmacia
- Polifarmacia en la EPOC
- Qué podemos hacer



Polifarmacia: consumo  $\geq 5$  fármacos

Polifarmacia excesiva: consumo  $\geq 10$  fármacos





# Polypharmacy, length of hospital stay, and in-hospital mortality among elderly patients in internal medicine wards. The REPOSI study

Alessandro Nobili • Giuseppe Licata •  
Francesco Salerno • Luca Pasina • Mauro Tettamanti •  
Carlotta Franchi • Luigi De Vittorio •  
Alessandra Marengoni • Salvatore Corrao •  
Alfonso Iorio • Maura Marcucci •  
Pier Mannuccio Mannucci •  
On behalf of SIMI Investigators

Eur J Clin Pharmacol (2011) 67:507–519

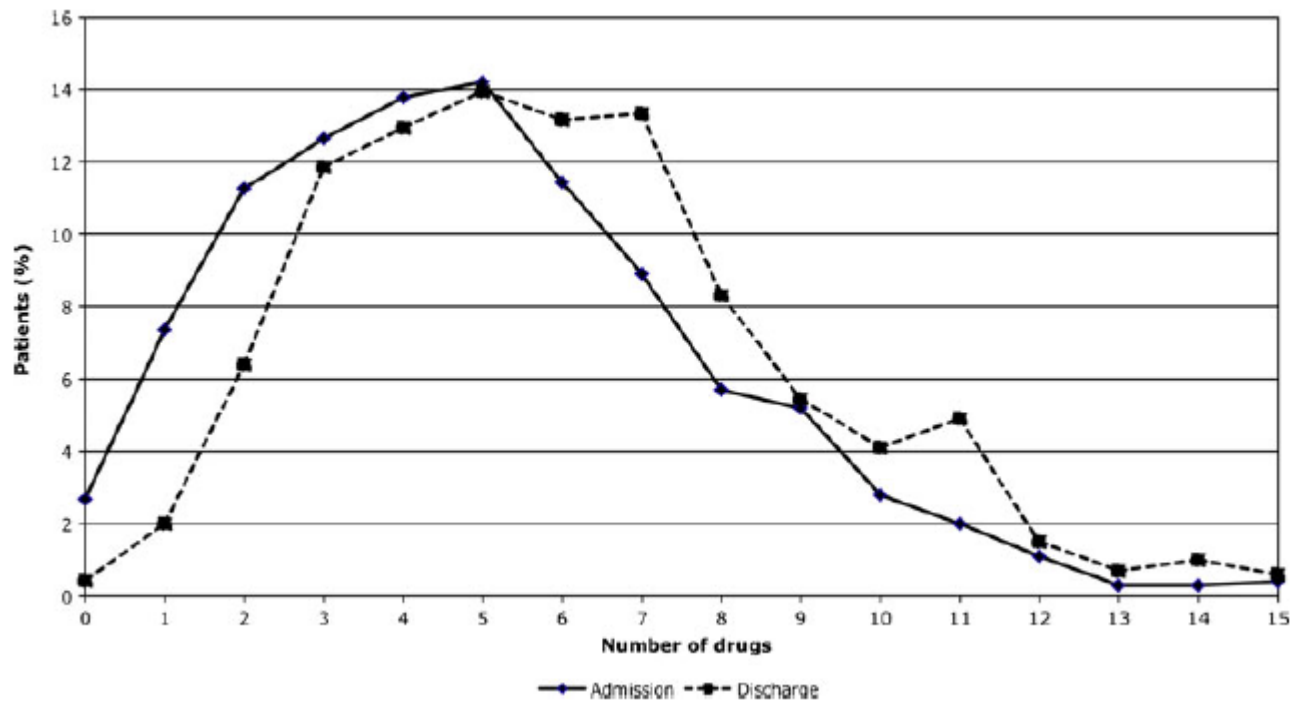


| Variables                             | Odds ratio <sup>a</sup> (95% CI) | P value |
|---------------------------------------|----------------------------------|---------|
| Females                               | 1.00 (0.75-1.32)                 | 0.98    |
| Age (years), mean                     | 0.96 (0.94-0.98)                 | <0.0001 |
| Number of drugs at admission, mean    | 2.32 (1.96-2.74)                 | <0.0001 |
| Adverse clinical events (one or more) | 1.08 (0.72-1.63)                 | 0.70    |
| Hypertension                          | 1.84 (1.34-2.53)                 | <0.0001 |
| Ischemic heart disease                | 1.72 (1.18-2.50)                 | 0.005   |
| Heart failure                         | 3.77 (1.77-8.01)                 | 0.001   |
| Atrial fibrillation                   | 1.09 (0.66-1.82)                 | 0.61    |
| Diabetes mellitus                     | 0.88 (0.54-1.43)                 | 0.70    |
| COPD                                  | 1.93 (1.33-2.79)                 | 0.001   |
| Dementia                              | 0.69 (0.29-1.66)                 | 0.41    |
| Cerebrovascular disease               | 0.93 (0.62-1.39)                 | 0.73    |
| Liver disease                         | 0.90 (0.49-1.63)                 | 0.72    |
| GI disorders                          | 0.99 (0.59-1.66)                 | 0.98    |
| Osteoporosis/osteoarthritis           | 1.44 (0.84-2.46)                 | 0.18    |
| Chronic renal failure                 | 0.98 (0.51-1.89)                 | 0.96    |
| Anemia                                | 0.88 (0.56-1.40)                 | 0.59    |
| Malignancy                            | 0.72 (0.47-1.10)                 | 0.13    |

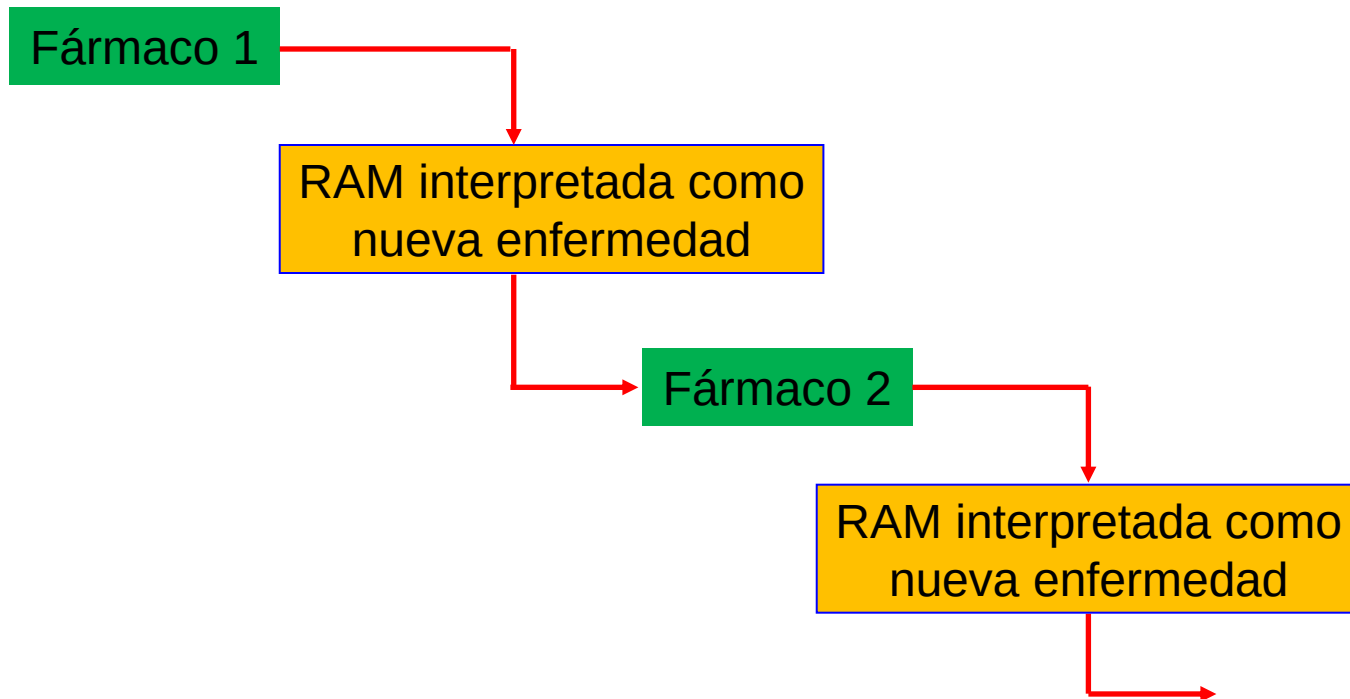
# Polypharmacy, length of hospital stay, and in-hospital mortality among elderly patients in internal medicine wards. The REPOSI study

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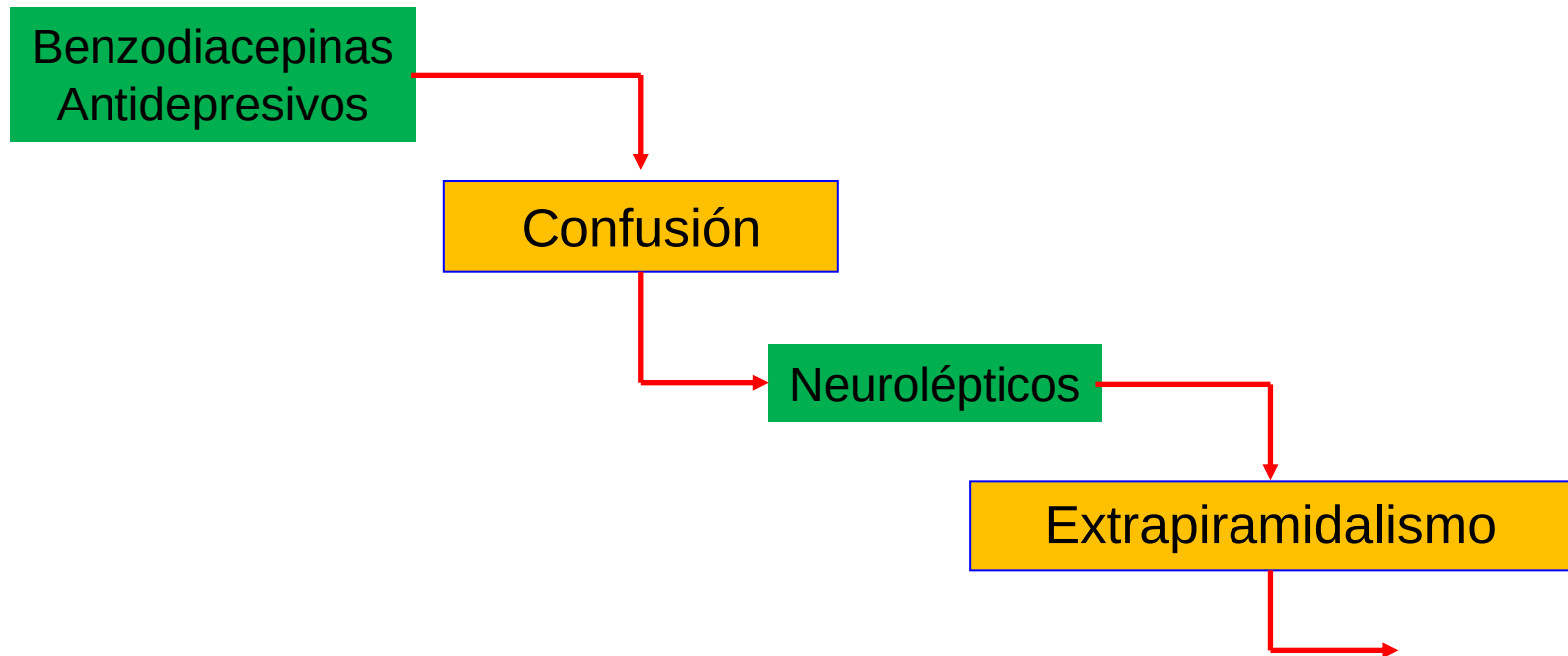


# Cascada de la prescripción



RAM=reacción adversa a medicamento

# Cascada de la prescripción



# Polypharmacy With Common Diseases in Hospitalized Elderly Patients

Fumihiko Mizokami, BS<sup>1</sup>; Yumiko Koide, BS<sup>1</sup>; Takeshi Noro, BS<sup>1</sup>; and Katsunori Furuta, BS<sup>1,2</sup>

Am J Geriatr Pharmacother 2012; 10: 123-8.

Table II. Analysis of common diseases in the elderly.

| Disease            | No. of Patients<br>Mean (%) | No. of Drugs<br>Mean (SD) | Prevalence of<br>Polypharmacy No. (%) | Most Frequently Prescribed Drugs |              |              |
|--------------------|-----------------------------|---------------------------|---------------------------------------|----------------------------------|--------------|--------------|
|                    |                             |                           |                                       | First                            | Second       | Third        |
| Hypertension       | 717 (41)                    | 5.2 (3.9)                 | 366 (51)                              | Aspirin                          | Amlodipine   | Sennoside    |
| Hyperlipidemia     | 487 (28)                    | 5.6 (3.8)                 | 280 (58)                              | Aspirin                          | Atorvastatin | Amlodipine   |
| Gastric ulcer      | 470 (27)                    | 5.4 (3.8)                 | 249 (53)                              | Loxoprofen                       | Aspirin      | Amlodipine   |
| Previous stroke    | 466 (26)                    | 5.8 (3.2)                 | 284 (61)                              | Aspirin                          | Sennoside    | Amlodipine   |
| Reflux esophagitis | 413 (23)                    | 5.6 (3.8)                 | 165 (40)                              | Lansoprazole                     | Aspirin      | Rabeprazole  |
| Diabetes mellitus  | 390 (22)                    | 5.6 (3.1)                 | 211 (54)                              | Aspirin                          | Glimepiride  | Amlodipine   |
| Malignancy         | 389 (22)                    | 4.1 (3.1)                 | 144 (37)                              | Sennoside                        | Loxoprofen   | Rabeprazole  |
| Osteoporosis       | 340 (19)                    | 5.4 (3.4)                 | 153 (45)                              | Amlodipine                       | Alendronate  | Alfacalcidol |
| Angina pectoris    | 332 (19)                    | 5.7 (3.6)                 | 140 (42)                              | Aspirin                          | Amlodipine   | Furosemide   |
| Depression         | 272 (15)                    | 7.0 (4.2)                 | 199 (73)                              | Zopiclone                        | Sennoside    | Alprazolam   |
| CHF                | 266 (15)                    | 6.1 (4.0)                 | 160 (60)                              | Aspirin                          | Furosemide   | Amlodipine   |
| Dementia           | 250 (14)                    | 5.1 (3.2)                 | 130 (52)                              | Donepezil                        | Zopiclone    | Sennoside    |
| COPD               | 150 (8)                     | 5.0 (3.5)                 | 80 (53)                               | Tiotropium                       | Amlodipine   | Aspirin      |

CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease.

- Polifarmacia
- **Polifarmacia en la EPOC**
- Qué podemos hacer

# Polypharmacy in patients hospitalised for acute exacerbation of COPD

Jesús Díez-Manglano<sup>1,2</sup>, José Barquero-Romero<sup>3</sup>, Pedro Almagro Mena<sup>4</sup>, Jesús Recio-Iglesias<sup>5</sup>, Javier Cabrera-Aguilar<sup>6</sup>, Francisco López-García<sup>7</sup>, Ramón Boixeda Viu<sup>8</sup>, Joan B. Soriano<sup>9</sup> and the ECCO Study researchers<sup>10</sup>

<sup>1</sup>Internal Medicine Dept, Hospital Royo Villanova, Zaragoza, Spain. <sup>2</sup>Aragon Health Sciences Institute, Zaragoza, Spain. <sup>3</sup>Internal Medicine Dept, Hospital Tierra de Barros, Almendralejo, Badajoz, Spain. <sup>4</sup>Internal Medicine Dept, Hospital Mutua de Tarrasa, Tarrasa, Barcelona, Spain. <sup>5</sup>Internal Medicine Dept, Hospital Valle de Hebrón, Barcelona, Spain. <sup>6</sup>Internal Medicine Dept, Hospital Gregorio Marañón, Madrid, Spain. <sup>7</sup>Internal Medicine Dept, Hospital de la Vega Baja, Orihuela, Alicante, Spain. <sup>8</sup>Internal Medicine Dept, Hospital de Mataró, Mataró, Barcelona, Spain. <sup>9</sup>Fundación Caubet-Cimera, Bunyola, Mallorca, Spain. <sup>10</sup>Working Group on COPD, Spanish Society of Internal Medicine.

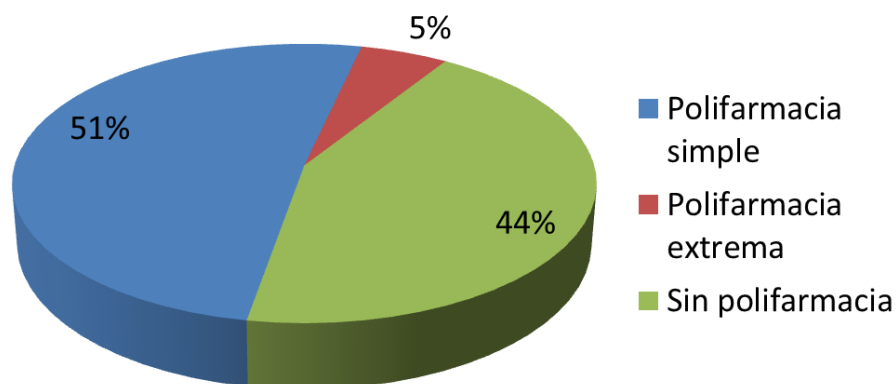
Eur Respir J 2014; 44: 791-794 | DOI: 10.1183/09031936.00014814

398 pacientes

Edad 73,7 (8,9) años

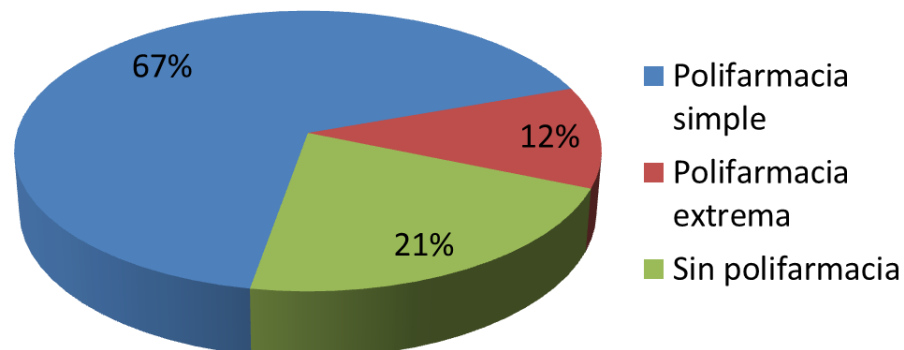
Mujeres 11,3 %

**Ingreso**



Nº fármacos  $5,0 \pm 2,6$

**Alta**

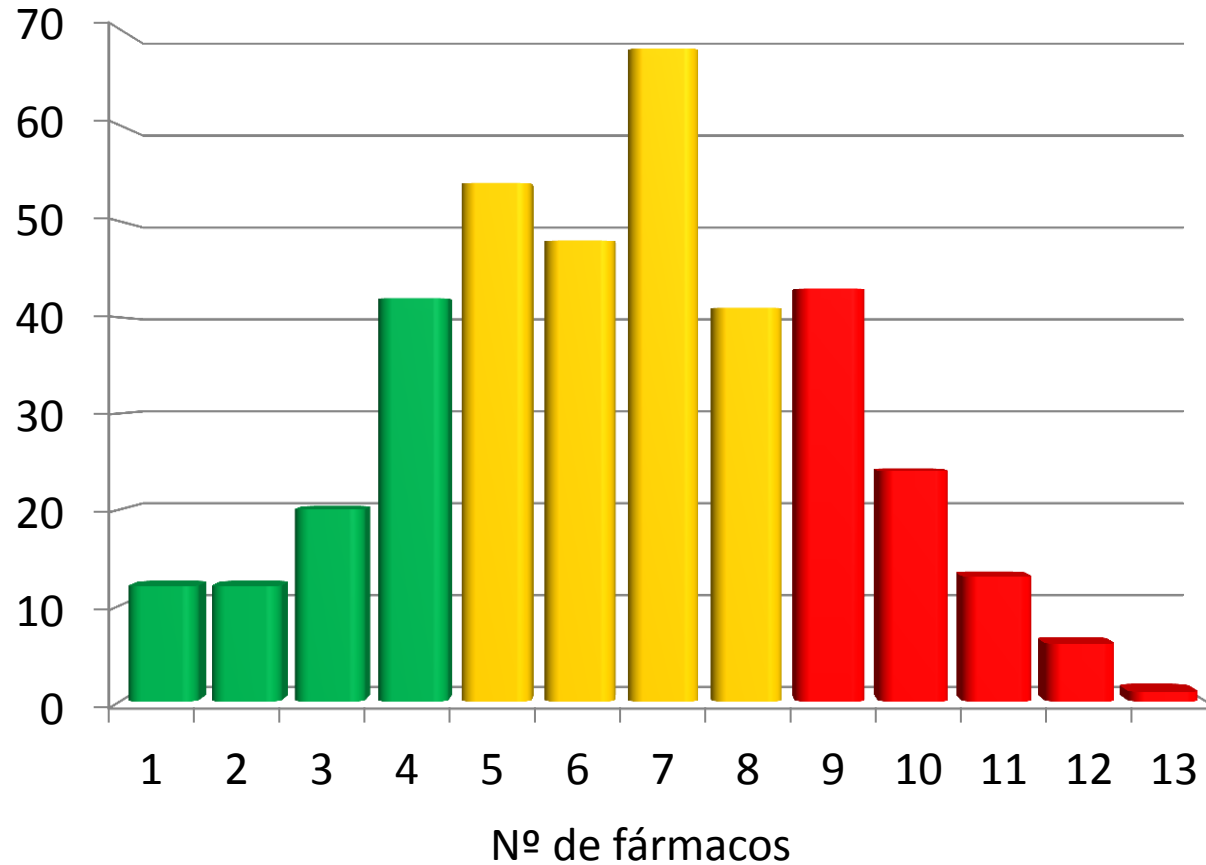


Nº fármacos  $6,6 \pm 2,4$



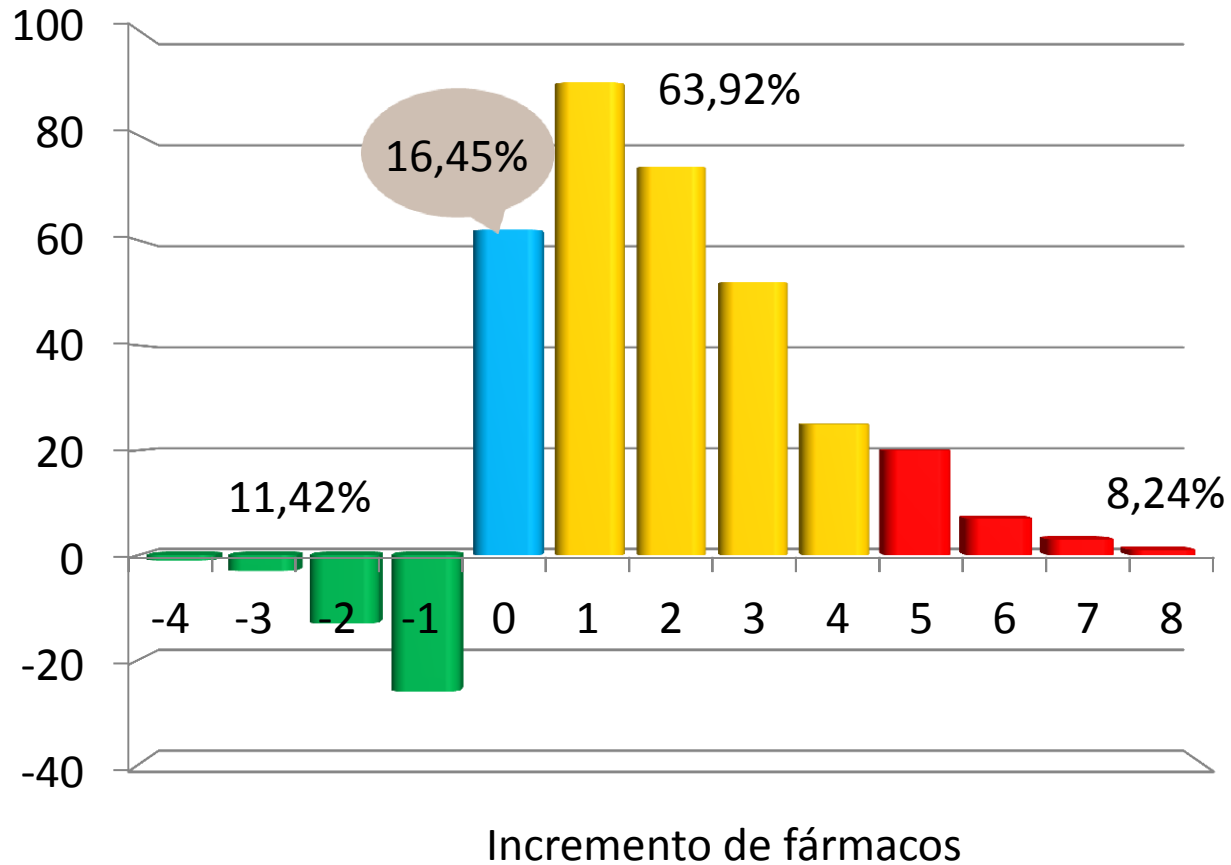


Pacientes





Pacientes





**Table 3. Change in drug use before admission and at discharge**

| Drugs                                                                                                                                                        | Before admission |      | At discharge |      | p      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------|--------------|------|--------|
|                                                                                                                                                              | n                | %    | n            | %    |        |
| SABA                                                                                                                                                         | 188              | 49,9 | 168          | 44,6 | 0.14   |
| LABA                                                                                                                                                         | 98               | 26,0 | 111          | 29,4 | 0.30   |
| LABA+ ICS                                                                                                                                                    | 191              | 50,7 | 260          | 69,0 | 0.0003 |
| Anticholinergics                                                                                                                                             | 271              | 71,9 | 330          | 87,5 | 0.0001 |
| Xantines                                                                                                                                                     | 50               | 13,3 | 61           | 16,2 | 0.26   |
| Inhaled corticosteroids                                                                                                                                      | 83               | 22,0 | 84           | 22,3 | 0.92   |
| Mucolytics agents                                                                                                                                            | 53               | 14,1 | 66           | 17,5 | 0.20   |
| Diuretics                                                                                                                                                    | 160              | 42,4 | 195          | 51,7 | 0.01   |
| ACE-inhibitors                                                                                                                                               | 115              | 30,5 | 130          | 34,5 | 0.24   |
| Betablockers                                                                                                                                                 | 15               | 3,9  | 30           | 8,0  | 0.02   |
| Gastric prophylactic drugs                                                                                                                                   | 181              | 48,0 | 259          | 68,7 | 0.0008 |
| Digoxine                                                                                                                                                     | 49               | 13,0 | 55           | 14,6 | 0.52   |
| Data of 373 patients (dead patients were excluded)                                                                                                           |                  |      |              |      |        |
| SABA: short-acting beta <sub>2</sub> -agonist, LABA: long-acting beta <sub>2</sub> -agonist, ICS:inhaled corticosteroids, ACE: angiotensin-converting-enzyme |                  |      |              |      |        |



88 pacientes

Edad 72,1 (9,4) años

Mujeres 10,2 %

Proyecto SEMI-EPOC

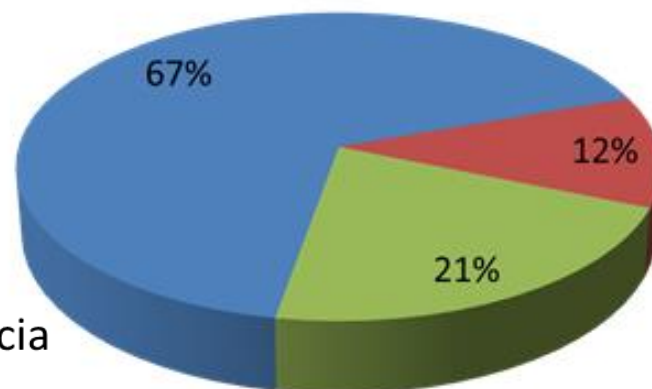
SSMI-COPD Project

Proyecto

**Datos  
preliminares**



Polifarmacia  
extrema  
■ Sin polifarmacia



Nº fármacos 3,8

Nº comprimidos 9,9 ± 5,6

Nº fármacos 6,6 ± 2,4



TABLE 1 Factors associated with polypharmacy at discharge

|                                | Univariate analysis |         | Multivariate analysis |         |
|--------------------------------|---------------------|---------|-----------------------|---------|
|                                | OR (95% CI)         | p-value | OR (95% CI)           | p-value |
| Age by decade years            | 1.33 (1.03–1.73)    | 0.03    | 1.02 (0.99–1.05)      | 0.22    |
| 10% predicted FEV <sub>1</sub> | 0.81 (0.67–0.99)    | 0.038   | 0.73 (0.57–0.93)      | 0.01    |
| Charlson index                 | 1.21 (1.01–1.44)    | 0.03    | 0.92 (0.76–1.13)      | 0.43    |
| Heart failure                  | 7.52 (2.95–19.20)   | 0.0002  | 3.94 (1.36–11.43)     | 0.01    |
| Coronary artery disease        | 3.05 (1.26–7.34)    | 0.01    | 2.26 (0.80–6.33)      | 0.12    |
| Hypertension                   | 3.19 (1.90–5.36)    | 0.0001  | 1.71 (0.90–3.26)      | 0.10    |
| Cardiac arrhythmia             | 3.49 (1.67–7.29)    | 0.0009  | 0.81 (0.33–2.08)      | 0.68    |
| Diabetes                       | 2.30 (1.23–4.29)    | 0.009   | 1.81 (0.85–3.87)      | 0.12    |
| Osteoporosis                   | 3.37 (1.01–11.28)   | 0.048   | 1.39 (0.36–5.39)      | 0.63    |
| Polypharmacy at admission      | 19.31 (8.94–41.68)  | 0.0005  | 13.10 (5.67–30.28)    | 0.0002  |

FEV<sub>1</sub>: forced expiratory volume in 1 s.

|                                                                                                                                                                | Sin polifarmacia | Con polifarmacia | P      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|--------|
| Edad*                                                                                                                                                          | 65,1 (11,1)      | 65,1 (11,1)      | 0,049  |
| Mujer                                                                                                                                                          | 10 (40,0)        | 12 (24,0)        | 0,02   |
| Fumador                                                                                                                                                        | 10 (40,0)        | 12 (24,0)        | 0,03   |
| Charlson                                                                                                                                                       | 10 (40,0)        | 12 (24,0)        | 0,0009 |
| %FEV <sub>1</sub>                                                                                                                                              | 10 (40,0)        | 12 (24,0)        | 0,90   |
| Disnea                                                                                                                                                         | 10 (40,0)        | 12 (24,0)        | 0,04   |
| Hosp EPOC                                                                                                                                                      | 10 (40,0)        | 12 (24,0)        | 0,27   |
| Días hosp año                                                                                                                                                  | 10 (40,0)        | 12 (24,0)        | 0,43   |
| OCD                                                                                                                                                            | 10 (40,0)        | 12 (24,0)        | 0,11   |
| Los datos se presentan como media (desv estándar) o *media±desv estandar. Comparación de porcentajes con X <sup>2</sup> y de medias con test de Kruskal-Willis |                  |                  |        |

**Datos  
preliminares**

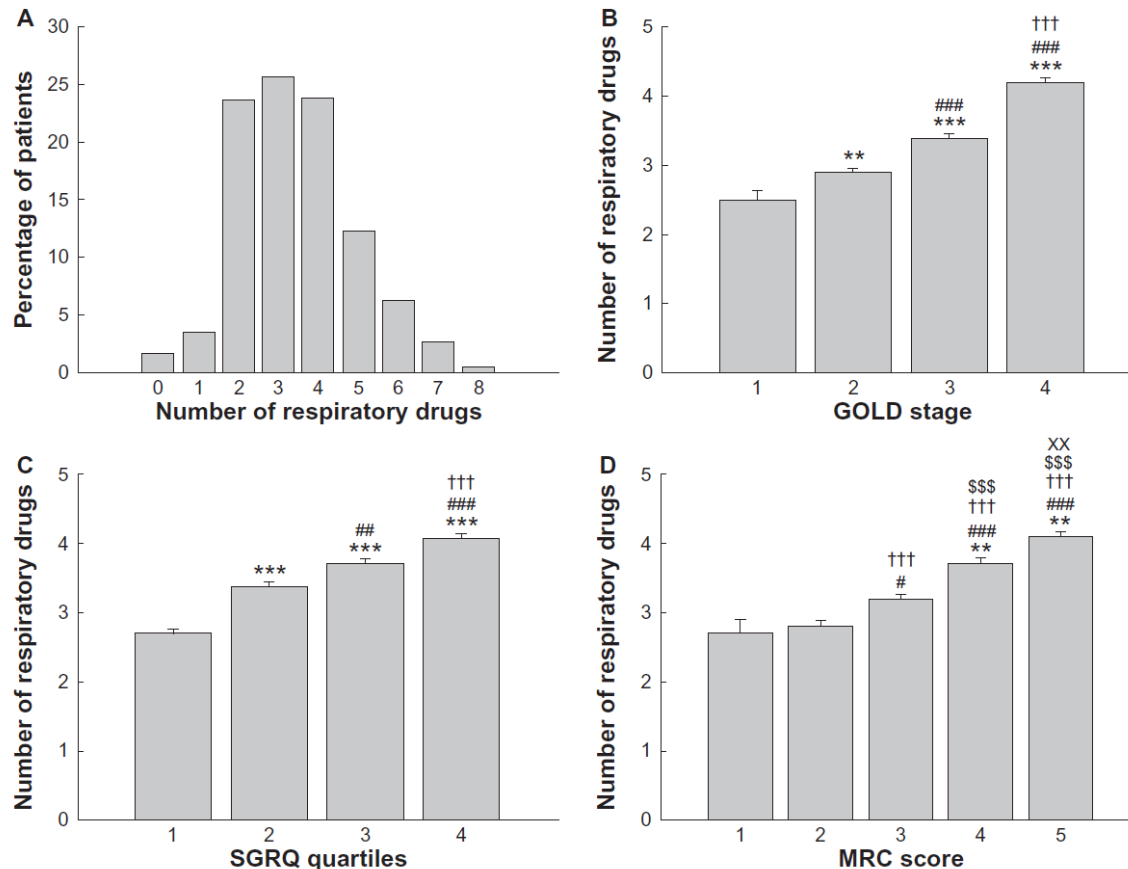
# Determinants of polypharmacy and compliance with GOLD guidelines in patients with chronic obstructive pulmonary disease

Frits ME Franssen<sup>1</sup>

Martijn A Spruit<sup>1</sup>

Emiel FM Wouters<sup>1,2</sup>

International Journal of COPD 2011;6:493–501



## Association between clusters of diseases and polypharmacy in hospitalized elderly patients: Results from the REPOSI study

Alessandro Nobili <sup>a,\*</sup>, Alessandra Marengoni <sup>b,1</sup>, Mauro Tettamanti <sup>a</sup>, Francesco Salerno <sup>c,1</sup>, Luca Pasina <sup>a</sup>, Carlotta Franchi <sup>a</sup>, Alfonso Iorio <sup>d,1</sup>, Maura Marcucci <sup>e</sup>, Salvatore Corrao <sup>f</sup>, Giuseppe Licata <sup>f,1</sup>, Pier Mannuccio Mannucci <sup>g,1</sup>

European Journal of Internal Medicine 22 (2011) 597–602



**Table 3**

Number of patients affected by specific diseases (N), mean number of drugs (95% confidence intervals, CI) and odds ratios (OR) for polypharmacy according to single diseases. Findings adjusted for age, sex, education, Charlson Index and participating centers.

| Diseases             | N   | Mean no. of drugs (95% CI) | OR  | 95% CI  |
|----------------------|-----|----------------------------|-----|---------|
| CHD                  | 264 | 7.5 (6.9–7.9)              | 4.0 | 2.7–6.1 |
| HF                   | 95  | 7.3 (6.5–8.2)              | 3.6 | 1.6–8.1 |
| AF                   | 234 | 6.7 (6.2–7.1)              | 2.7 | 1.9–3.7 |
| Dyslipidemia         | 161 | 6.7 (6.1–7.3)              | 2.4 | 1.6–3.7 |
| Thyroid diseases     | 108 | 6.8 (6.2–7.4)              | 2.4 | 1.4–4.1 |
| Hypertension         | 679 | 6.4 (6.0–6.8)              | 2.3 | 1.8–2.9 |
| CRF                  | 135 | 7.5 (6.9–8.2)              | 2.1 | 1.3–3.3 |
| Diabetes mellitus    | 281 | 7.4 (6.9–7.8)              | 1.9 | 1.4–2.8 |
| COPD                 | 223 | 7.2 (6.4–7.9)              | 1.9 | 1.3–2.9 |
| Prostate hypertrophy | 90  | 6.8 (6.1–7.6)              | 1.9 | 0.9–3.6 |
| Intestinal diseases  | 87  | 6.4 (5.9–6.9)              | 1.8 | 0.9–3.3 |
| Gastric diseases     | 164 | 6.7 (6.1–7.2)              | 1.6 | 0.9–2.6 |
| Anxiety              | 91  | 6.5 (5.6–7.5)              | 1.6 | 0.9–2.7 |
| CVD                  | 231 | 6.4 (5.9–6.9)              | 1.5 | 1.1–2.0 |
| Arthritis            | 80  | 6.1 (5.3–6.8)              | 1.2 | 0.7–2.1 |
| Anemia               | 107 | 6.4 (5.7–7.1)              | 0.9 | 0.6–1.3 |
| Liver cirrhosis      | 96  | 6.2 (5.5–6.8)              | 0.8 | 0.4–1.4 |
| Dementia             | 80  | 5.3 (4.6–6.0)              | 0.8 | 0.5–1.3 |
| Malignancy           | 170 | 6.2 (5.5–6.8)              | 0.6 | 0.4–0.9 |

CVD = Cerebrovascular Disease; HF = Heart Failure, AF = Atrial Fibrillation, COPD = Chronic Obstructive Pulmonary Disease, CRF = Chronic Renal Failure, CHD = Coronary Heart Disease.

**Table 4**

Mean number of drugs (95% confidence intervals, CI) and odds ratios (OR) for polypharmacy according to clusters of diseases. Findings adjusted for age, sex, education, Charlson Index and participating centers.

| Clusters of diseases                   | Mean no. of drugs (95% CI) | OR  | 95% CI   |
|----------------------------------------|----------------------------|-----|----------|
| Diabetes and CHD and CVD               | 8.3 (7.1–9.5)              | 9.8 | 1.3–72.2 |
| Diabetes and CHD                       | 8.7 (7.9–9.5)              | 5.8 | 2.6–13.2 |
| HF and AF                              | 7.6 (6.7–8.5)              | 5.5 | 2.0–14.9 |
| Thyroid dysfunction and AF             | 7.4 (6.7–8.1)              | 5.0 | 1.8–14.1 |
| COPD and CHD                           | 8.3 (7.3–9.2)              | 4.1 | 1.7–9.9  |
| Hypertension and dyslipidemia          | 7.1 (6.5–7.7)              | 3.7 | 2.0–6.7  |
| HF and COPD                            | 8.7 (7.4–9.9)              | 3.7 | 0.8–16.8 |
| Diabetes and CVD                       | 7.4 (6.7–8.0)              | 3.2 | 1.5–6.7  |
| Diabetes and dyslipidemia              | 7.9 (7.2–8.6)              | 2.8 | 1.3–6.1  |
| Diabetes and CRF                       | 8.3 (7.4–9.2)              | 2.7 | 0.9–7.9  |
| Hypertension and diabetes              | 7.7 (7.1–8.2)              | 2.4 | 1.6–3.5  |
| Hypertension and CVD                   | 6.7 (6.3–7.1)              | 2.3 | 1.7–3.0  |
| HF and CRF                             | 8.2 (6.8–9.6)              | 2.2 | 0.4–11.5 |
| CRF and anemia                         | 7.9 (6.5–9.3)              | 1.8 | 0.7–4.8  |
| Gastric and gastro-intestinal diseases | 7.1 (6.0–8.1)              | 1.8 | 0.6–5.4  |
| Arthritis and dementia                 | 5.7 (3.8–7.5)              | 0.9 | 0.2–4.5  |
| Liver cirrhosis and anemia             | 6.5 (4.9–8.1)              | 0.7 | 0.2–3.0  |
| Liver cirrhosis and malignancy         | 6.1 (4.9–7.3)              | 0.6 | 0.3–1.6  |

CVD = Cerebrovascular Disease; HF = Heart Failure, AF = Atrial Fibrillation, COPD = Chronic Obstructive Pulmonary Disease, CRF = Chronic Renal Failure, CHD = Coronary Heart Disease.

# Factors Associated with Medication Adherence in Patients with Chronic Obstructive Pulmonary Disease

Tamas Agh Andras Inotai Agnes Meszaros

Respiration 2011;82:328–334



**Table 4.** Independent predictors of adherence to respiratory therapy identified by multivariate logistic regression analysis

| Variable                                            | Odds ratio (95% CI) | p value |
|-----------------------------------------------------|---------------------|---------|
| Age                                                 | 1.081 (1.011–1.156) | 0.023   |
| EQ-5D score                                         | 0.011 (0.000–0.594) | 0.027   |
| Cost of COPD medication per month paid by patient   | 0.906 (0.727–1.130) | 0.382   |
| Currently smoking                                   | 0.110 (0.024–0.496) | 0.004   |
| Number of daily drugs (respiratory indication)      |                     |         |
| 1                                                   | –                   | 1.00    |
| 2                                                   | 0.090 (0.017–0.461) | 0.004   |
| 3 or more                                           | 0.050 (0.004–0.669) | 0.024   |
| Number of daily drug doses (respiratory indication) |                     |         |
| 1–4                                                 | –                   | 1.00    |
| 5–8                                                 | 0.105 (0.026–0.424) | 0.002   |
| 9 or more                                           | 0.019 (0.003–0.118) | ≤0.001  |

CI = Confidence interval.

# Potential risk factors for medication non-adherence in patients with chronic obstructive pulmonary disease (COPD)

Maher R. Khmour • Ahmed F. Hawwa •  
Joseph C. Kidney • Bronagh M. Smyth •  
James C. McElroy

Eur J Clin Pharmacol (2012) 68:1365–1373

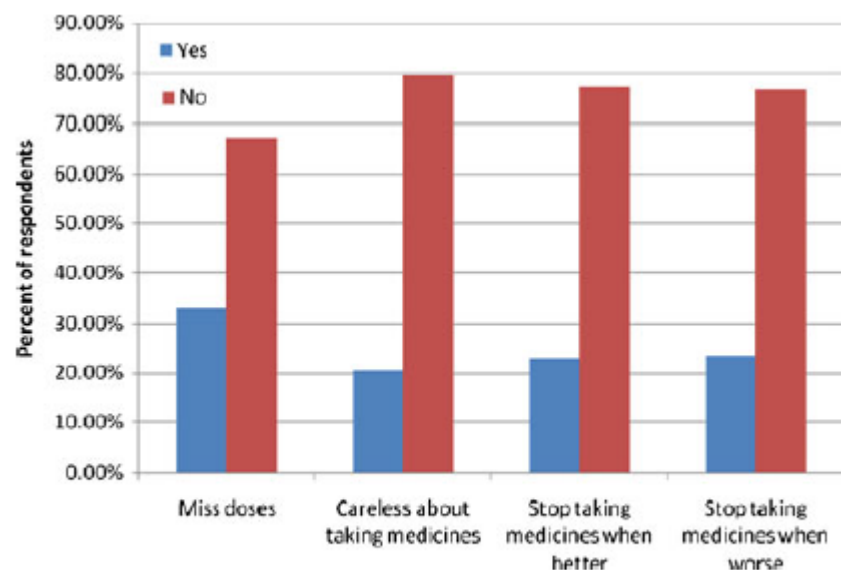


Fig. 1 Patient responses to self-report adherence items

**Table 3** Univariate analysis of the association of potential demographic and clinical variables with self-reported adherence

| Potential explanatory variables    | <i>p</i> -value    |
|------------------------------------|--------------------|
| Gender                             | >0.25 <sup>a</sup> |
| Age                                | >0.25 <sup>b</sup> |
| Marital status                     | >0.25 <sup>a</sup> |
| Living arrangements                | <0.25 <sup>a</sup> |
| Occupation                         | >0.25 <sup>a</sup> |
| Education                          | >0.25 <sup>a</sup> |
| Smoking status                     | <0.05 <sup>a</sup> |
| Disease and medication knowledge   | <0.01 <sup>b</sup> |
| Self-efficacy                      | <0.01 <sup>b</sup> |
| Number of prescribed medications   | >0.25 <sup>b</sup> |
| Medication effectiveness           | <0.01 <sup>a</sup> |
| Disease severity                   | <0.05 <sup>a</sup> |
| HAD anxiety                        | <0.25 <sup>b</sup> |
| HAD depression                     | <0.01 <sup>b</sup> |
| Co-morbid illness                  | <0.01 <sup>a</sup> |
| Duration of COPD disease           | <0.25 <sup>b</sup> |
| HBM perceived susceptibility score | <0.01 <sup>b</sup> |
| HBM perceived barriers score       | <0.01 <sup>b</sup> |

HAD Hospital Anxiety and Depression scale, COPD chronic obstructive pulmonary disease, HBM Health Belief Model

<sup>a</sup> Chi-squared test or Fisher exact test, as appropriate

<sup>b</sup> Mann-Whitney U-Test or Student's t-test, as appropriate

# Potential drug-drug interactions in hospitalized patients with chronic heart failure and chronic obstructive pulmonary disease

Tina Roblek<sup>1</sup>, Katja Trobec<sup>2</sup>, Ales Mrhar<sup>1</sup>, Mitja Lainscak<sup>3,4</sup>

Arch Med Sci 2014; 10, 5: 920–932

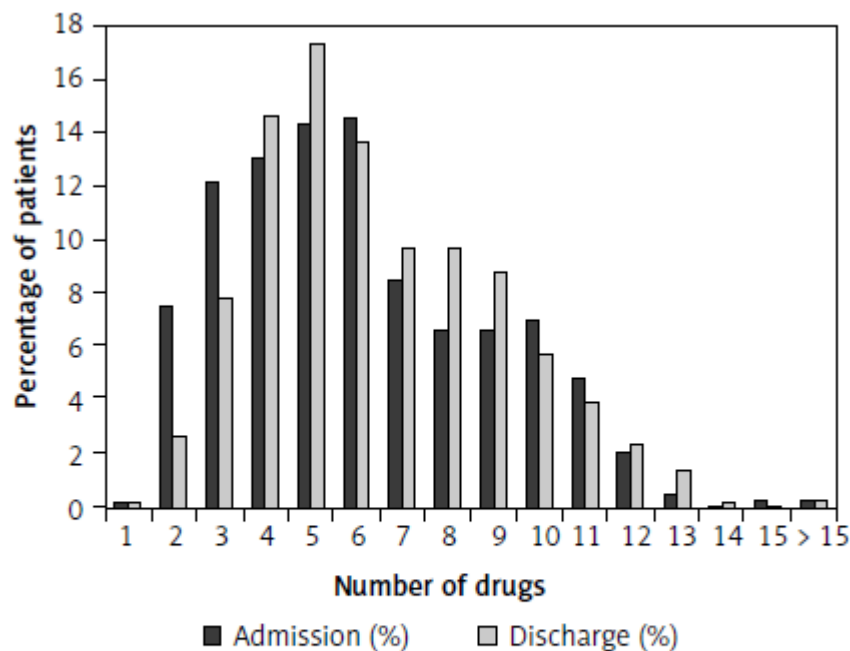
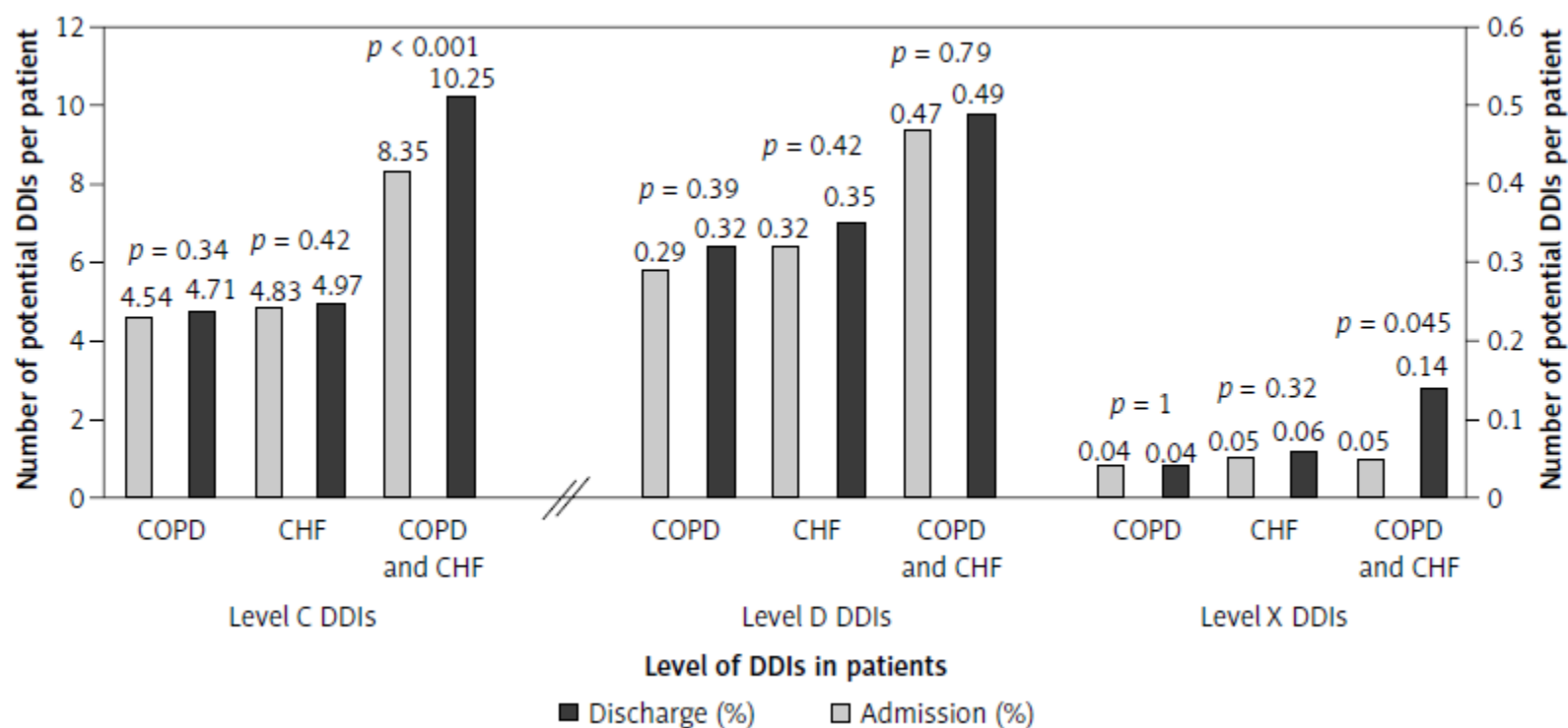


Figure 4. Proportion of patients with COPD ( $n = 326$ ) and number of drugs on admission and at discharge



**Table IX.** Associations between number of potential DDIs of significance level C, D, and X and number of diagnoses, number of drugs, and length of hospital stay

| Variable                                                                                               | Pearson's coefficient ( $r^2$ ) | Value of $p$ |
|--------------------------------------------------------------------------------------------------------|---------------------------------|--------------|
| Association between <u>number of drugs</u> and number of potential DDIs of significance level:         |                                 |              |
| C                                                                                                      | 0.322                           | < 0.001      |
| D                                                                                                      | 0.212                           | < 0.001      |
| X                                                                                                      | 0.013                           | 0.001        |
| Association between <u>number of diagnoses</u> and number of potential DDIs of significance level:     |                                 |              |
| C                                                                                                      | 0.148                           | < 0.001      |
| D                                                                                                      | 0.148                           | < 0.001      |
| X                                                                                                      | 0.035                           | < 0.001      |
| Association between <u>length of hospital stay</u> and number of potential DDIs of significance level: |                                 |              |
| C                                                                                                      | 0.006                           | 0.032        |
| D                                                                                                      | 0.000                           | 0.561        |
| X                                                                                                      | 0.000                           | 0.781        |

- Polifarmacia
- Polifarmacia en la EPOC
- Qué podemos hacer

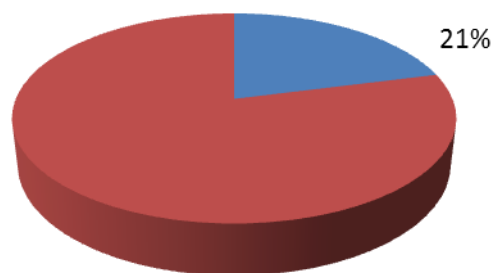
# Adecuación

Por uso racional de los medicamentos se entiende su uso correcto y apropiado. Para que haya un uso racional, el paciente tiene que recibir el medicamento adecuado y la dosis debida durante un periodo de tiempo suficiente, al menor costo para él y para la comunidad.

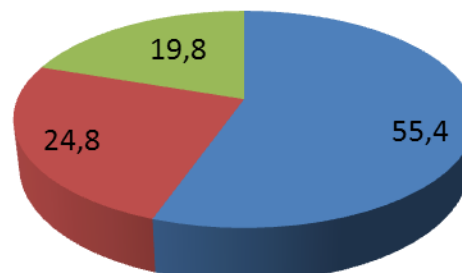
- Criterios de Beers.
- Criterios STOPP-START.
- Medicamentos de utilidad terapéutica baja.

# Adecuación

321 ingresos. Criterios de Beers, criterios STOPP y medicamentos UTB



■ Actuación



■ UTB ■ STOPP ■ Beers

60,9% de las intervenciones tienen continuidad en Atención Primaria, 32,6% no.  
Ahorro estimado 5715 € en 4 meses.

Al-Cheikh P et al. XXXII Congreso SEMI, 2011

# Conciliación

Proceso formal y estandarizado de obtener la lista completa de la medicación previa de un paciente, compararla con la prescripción activa, y analizar y resolver las discrepancias encontradas.

- En el momento del ingreso.
- En los traslados entre unidades.
- En los traslados entre hospitales.
- En el momento del alta.

## CONCILIACIÓN DE LA MEDICACIÓN EN CENTROS HOSPITALARIOS

### INGRESO

El objetivo de la conciliación de la medicación al ingreso es asegurar que hay una decisión consciente del prescriptor de continuar, suspender o modificar el tratamiento domiciliario del paciente.

#### Comparar:

Mejor historia de medicación  
domiciliaria posible

vs.

Prescripción al ingreso

**para identificar y solucionar  
discrepancias**

### TRASLADO

El objetivo es considerar no sólo la medicación que el paciente estaba recibiendo en la unidad asistencial desde la que se traslada, sino también la medicación domiciliaria al ingreso, que puede resultar apropiado continuar, reiniciar, suspender o modificar.

#### Comparar:

Mejor historia de medicación  
domiciliaria posible

y

Hoja de registro de administración  
de la unidad de procedencia

vs.

Nueva prescripción de traslado

**para identificar y resolver  
discrepancias**

### ALTA

El objetivo es conciliar la medicación que el paciente estaba tomando antes del ingreso y la prescrita en el hospital con la medicación que debe tomar después del alta, para asegurar que todos los cambios son intencionados y que todas las discrepancias se solucionan antes del alta.

#### Comparar:

Mejor historia de medicación  
domiciliaria posible

y

Hoja de registro de administración  
de las últimas  
24 horas

vs.

Prescripción al alta

**para identificar y resolver  
discrepancias y preparar el  
mejor plan farmacoterapéutico  
al alta posible**

# Pharmacist-led medication reconciliation to reduce discrepancies in transitions of care in Spain

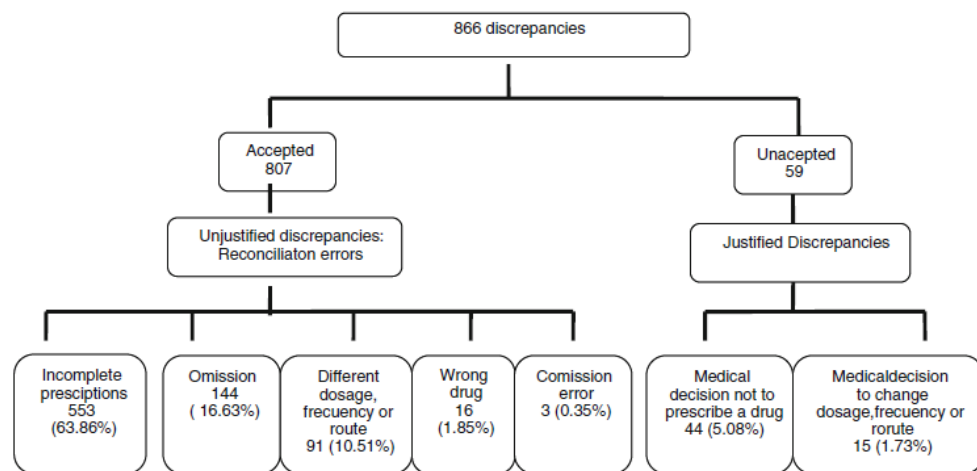
Maria Ángeles Allende Bandrés • Mercedes Arenere Mendoza •  
Fernando Gutiérrez Nicolás • Miguel Ángel Calleja Hernández •  
Fernando Ruiz La Iglesia

Int J Clin Pharm (2013) 35:1083–1090

2473 pacientes

Pacientes con error de conciliación 16,8%

Errores de conciliación por paciente 1,93



**Table 2** Medication reconciliation interventions by pharmacotherapeutic group

|                                                     | n   | %      |
|-----------------------------------------------------|-----|--------|
| Cardiovascular system                               | 246 | 34.02  |
| Nervous system                                      | 158 | 21.85  |
| Alimentary tract and metabolism                     | 97  | 13.42  |
| Respiratory system                                  | 66  | 9.13   |
| Blood and blood forming organs                      | 47  | 6.50   |
| Genito-urinary system                               | 30  | 4.15   |
| Musculoskeletal system                              | 26  | 3.60   |
| Hormonal preparations                               | 20  | 2.77   |
| Sensory organs                                      | 20  | 2.77   |
| Antineoplastic and immunomodulating agents          | 7   | 0.97   |
| Antiinfectives for systemic use                     | 3   | 0.41   |
| Various                                             | 2   | 0.28   |
| Antiparasitic products, insecticides and repellents | 1   | 0.14   |
| Total                                               | 723 | 100.00 |

# Desprescripción

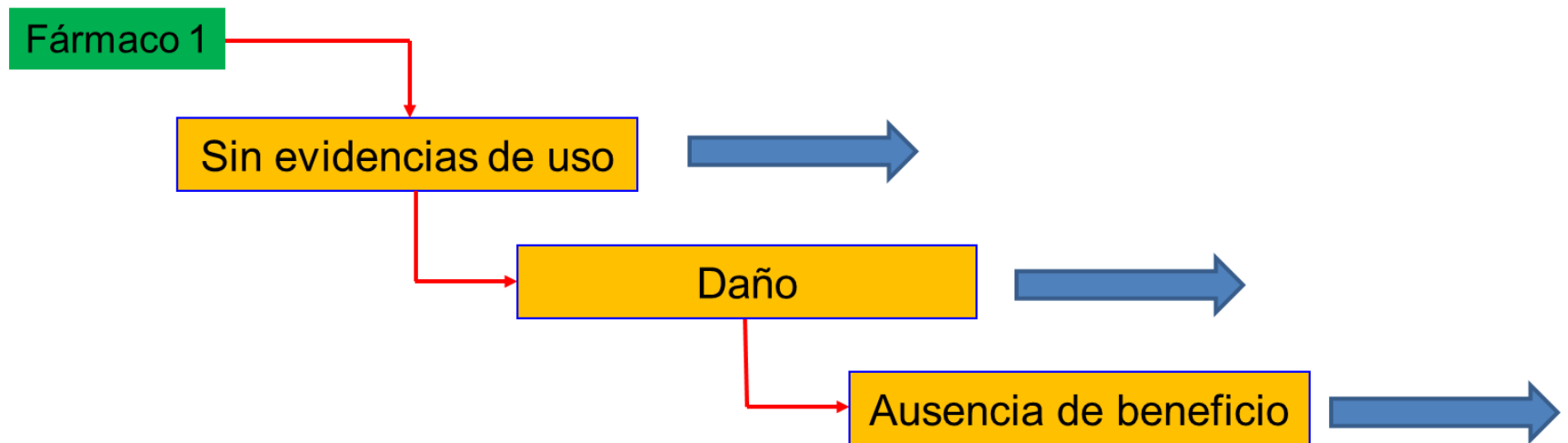
Proceso de adaptación del régimen terapéutico de un paciente mediante la reducción de dosis, sustitución o eliminación de fármacos.

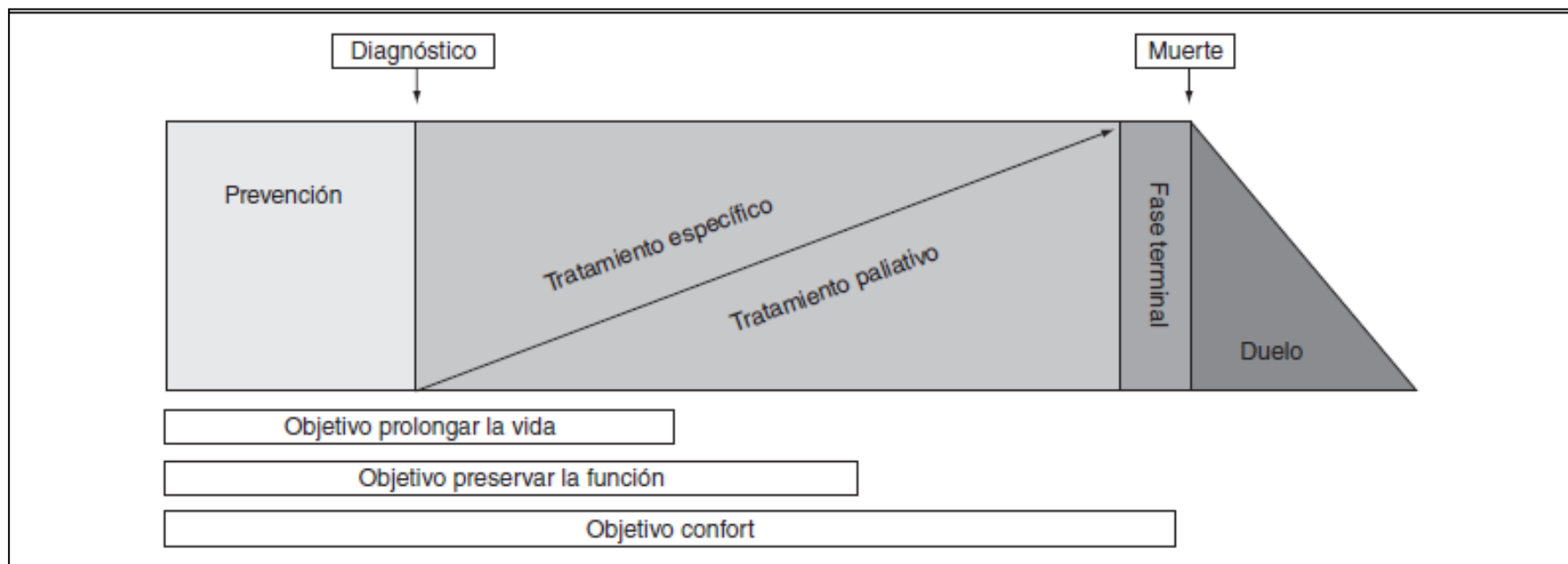
Debe tener en cuenta:

- Las evidencias científicas disponibles.
- La funcionalidad física y social.
- La calidad de vida.
- La comorbilidad.
- Las preferencias del paciente.

# Desprescripción

## Cascada de la desprescripción





# The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

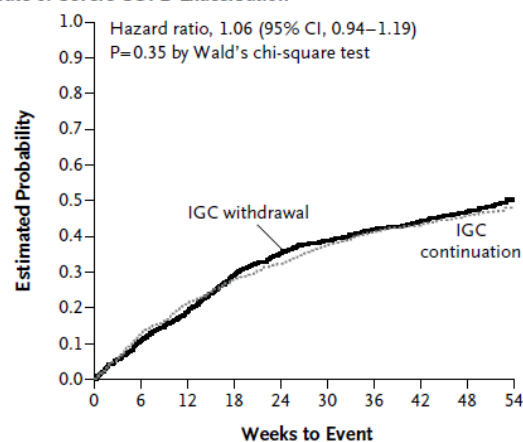
OCTOBER 2, 2014

VOL. 371 NO. 14

## Withdrawal of Inhaled Glucocorticoids and Exacerbations of COPD

Helgo Magnussen, M.D., Bernd Disse, M.D., Ph.D., Roberto Rodriguez-Roisin, M.D., Anne Kirsten, M.D., Henrik Watz, M.D., Kay Tetzlaff, M.D., Lesley Towse, B.Sc., Helen Finnigan, M.Sc., Ronald Dahl, M.D., Marc Decramer, M.D., Ph.D., Pascal Chanez, M.D., Ph.D., Emiel F.M. Wouters, M.D., Ph.D., and Peter M.A. Calverley, M.D., for the WISDOM Investigators\*

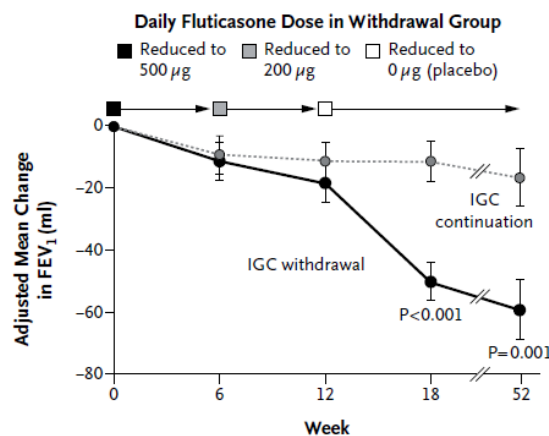
### A Moderate or Severe COPD Exacerbation



#### No. at Risk

|                  |      |      |     |     |     |     |     |     |     |    |
|------------------|------|------|-----|-----|-----|-----|-----|-----|-----|----|
| IGC continuation | 1243 | 1059 | 927 | 827 | 763 | 694 | 646 | 615 | 581 | 14 |
| IGC withdrawal   | 1242 | 1090 | 965 | 825 | 740 | 688 | 646 | 607 | 570 | 19 |

### D Change from Baseline in Trough FEV<sub>1</sub>



#### No. at Risk

|                  |      |      |      |      |     |
|------------------|------|------|------|------|-----|
| IGC continuation | 1223 | 1135 | 1114 | 1077 | 970 |
| IGC withdrawal   | 1218 | 1135 | 1092 | 1058 | 935 |

Table 2. Adverse Events.\*

| Variable                                 | Glucocorticoid Continuation (N=1243) | Glucocorticoid Withdrawal (N=1242) |
|------------------------------------------|--------------------------------------|------------------------------------|
| no. of patients (%)                      |                                      |                                    |
| Adverse events                           |                                      |                                    |
| Any                                      | 880 (70.8)                           | 890 (71.7)                         |
| Leading to discontinuation of study drug | 115 (9.3)                            | 127 (10.2)                         |
| Serious adverse events                   |                                      |                                    |
| Any                                      | 292 (23.5)                           | 300 (24.2)                         |
| Death                                    |                                      |                                    |
| During study period                      | 34 (2.7)                             | 40 (3.2)                           |
| Including vital-status follow-up         | 38 (3.1)                             | 43 (3.5)                           |
| Requiring hospitalization                | 273 (22.0)                           | 271 (21.8)                         |
| Adverse events of special interest†      |                                      |                                    |
| Pneumonia                                | 72 (5.8)                             | 68 (5.5)                           |
| Major adverse cardiac event              |                                      |                                    |
| Any                                      | 25 (2.0)                             | 27 (2.2)                           |
| Fatal                                    | 14 (1.1)                             | 19 (1.5)                           |
| Stroke                                   | 9 (0.7)                              | 6 (0.5)                            |

# Muchas gracias

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