



EMERGENCY DEPARTMENT REVISIT SCORE BASED ON PHARMACOTHERAPY

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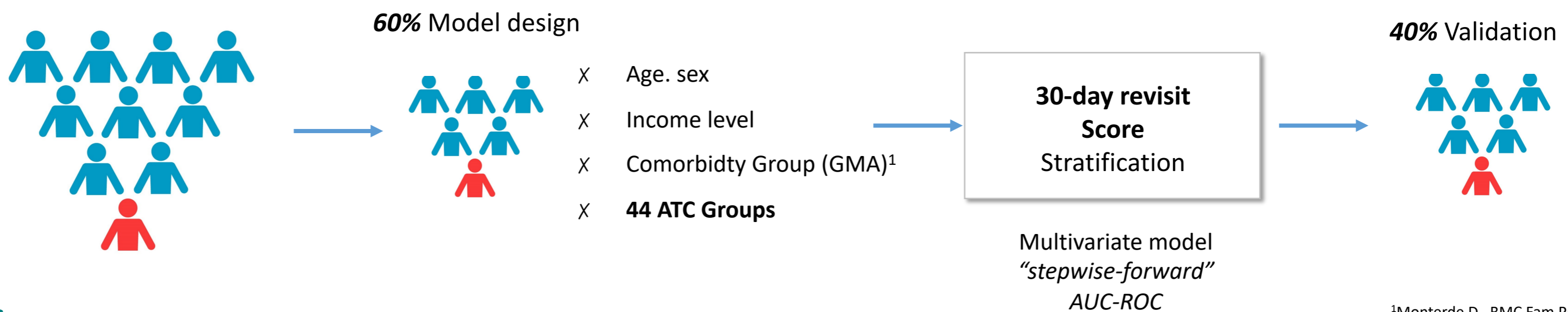
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Background and importance

- ✗ Drug-related problems (DRPs) are a common reason for visiting the emergency departments (ED).
- ✗ The information available on **risk factors** associated with new ED visits based on the patient's pharmacotherapy is limited.
- ✗ **Objective:** To develop a predictive model of the risk of revisiting the ED at 30 days based on patients' comorbidities, incomes and pharmacotherapy at discharge.

Methods

Emergency visits Catalunya 2019
(Triage de 1-3)

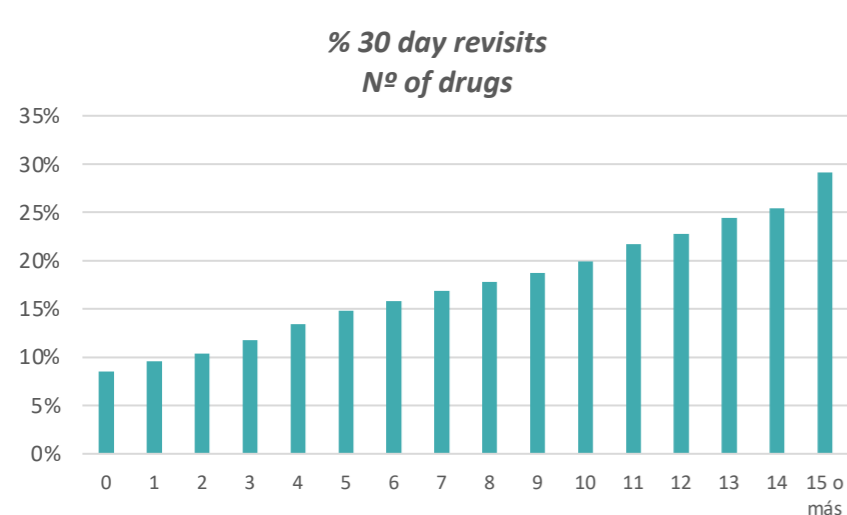


Results

851,649 patients evaluated → **134,560 (15.8%)** revisit ED at 30-day

- 201,445 (23.6%) with >9 drugs prescribed at discharge

Effect of polypharmacy over revisits:



Drugs with the highest risk score:

- Osmotic laxative: 1.42(1.26-1.59)
- B-lactams: 1.33(1.12-1.58)
- Potassium-sparing: 1.28 (1.25-1.31)
- Heparins: 1.15 (1.11-1.19)
- Digoxin: 1.14 (1.01-1.31)

Variables included in the final model

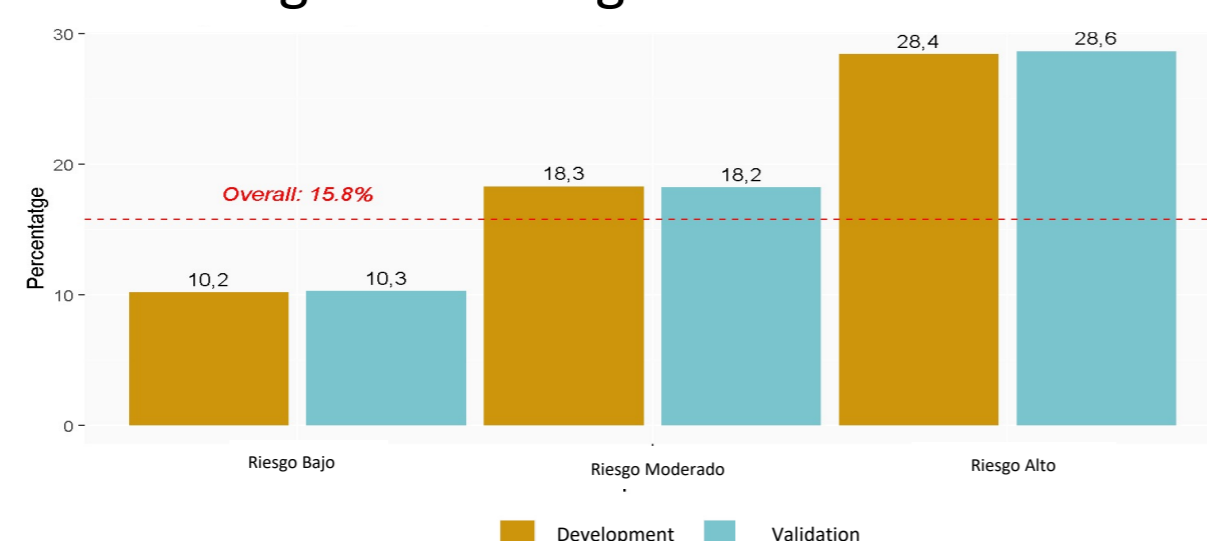
Variable	Weight
Sex	
Male	0.0
Female	-0.268
Age group	
18-34	0.000
35-44	-0.053
45-54	-0.045
55-64	0.141
65-74	0.221
75-84	0.329
84-94	0.623
>94	0.994
Comorbidity group (GMA)	
Basal	0.000
Low	0.348
Moderate	0.745
High	1.203
Very high	1.711
Income Level	
High (>100,000 €)	0.000
Medium (18,000–100,000 €)	-0.088
Low (<18,000 €)	-0.030
Very low (welfare support)	0.054
Number of drugs	0.037

Variable	Weight
Antiacids	0.040
Other laxatives	-0.121
Osmotic laxatives	0.458
Other oral antidiabetics	-0.064
Sulfonylureas	-0.134
Gliptines	-0.066
Gliptines and glinides	-0.055
Other antitrombotics	-0.204
Vitamin-K antagonist	-0.153
Heparins	0.369
Antiplatelets	-0.015
Digoxine	0.057
Antiarrhythmic	0.038
Other diuretics	0.082
Potassium-sparing diuretics	0.299
B-Blockers	0.024
Calcium antagonist	-0.074
Verapamil or diltiazem	-0.059
ACEi/ARB	-0.186
Statins	-0.198
Fibrates	-0.184
Corticosteroids	0.362
Other antibiotics	0.164
B-Lactams antibiotics	0.719
Folic acid analogues	1.000
Otros inmunosupresoras	-0.191
Immunosup. Inhib. calcineurin	-0.287
Tacrolimus	-0.348
Anti-inflammatories	-0.145
Opioids	0.103
Pirazolones	0.063
Otros antiepileptics	-0.043
Carboxamide	-0.074
Psycholeptics	-0.071
Other antipsycothics	0.166
Lithium	0.187
Benzodiazepines	-0.074
Other psychoanaleptics	-0.098
SSRIs antidepressant	-0.137
Constant	-1.862

Area under curve receiving operating characteristics (AUCROC):

- Development sample: 0.648 (CI95%: 0.646-0.650)
- Validation sample: 0.647 (0,644-0.649).

Three 30-day revisit risk categories were generated:



$$\%Risk = 1 / (1 + e^{-(\epsilon \text{Weights})})$$

Conclusions

- ✗ The DRP-score identifies patients at high risk of returning to the ED within 30 days based on pharmacotherapy, being a useful tool for prioritizing interventions from these units..