

# Cost minimization analysis comparing paliperidone palmitate long-acting injectable with risperidone long-acting treatment in Spain

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## Objective

The aim was to compare the treatment costs between paliperidone palmitate long-acting treatment (PPLAT) and risperidone long-acting treatment (RLAT), when treating schizophrenia patients from the perspective of the Spanish National Health System (NHS).

## Materials & Methods

- The cost-minimization analysis used in the SMC (Scottish Medicine Consortium)<sup>1</sup> evaluation was customized for the treatment of patients with schizophrenia in Spain.
- Only health direct costs were considered to estimate the total costs (euros, 2015):
  - Drug costs: including long-acting treatments (LAT) and oral daily antipsychotic (DA) supplementation costs when required.
  - Hospitalization costs
  - Costs of administration in the community by nurse personnel

- Two different time horizons were tested:
  - 1 year, to compare costs associated to treatment initiation
  - 2 years, to compare costs associated to maintenance treatment
- The following stringent assumptions were applied in the base case (table 1):
  - No reduction in length of stay (LOS) at hospital level
  - 50% of patients initiate treatment in hospital and 50% in community (drug acquisition costs were estimated with ex-factory prices and retail prices<sup>2</sup>, respectively, and considering mandatory deduction<sup>3</sup>)
  - 50% of patients initiate treatment from a LAT (no initiation dose required) and 50% switching from a oral DA requiring a initiation dose.
- Average doses were estimated for both PPLAT and RLAT.
  - PPLAT: 15% PPLAT 50mg; 14% PPLAT 75mg; 40% PPLAT 100mg and 31% PPLAT 150mg.
  - RLAT: 15% RLAT 25mg; 14% RLAT 37.5mg; 61% RLAT 50mg and 10% RLAT 75mg.
- One-way sensitivity analysis (SA) were performed with main parameters.

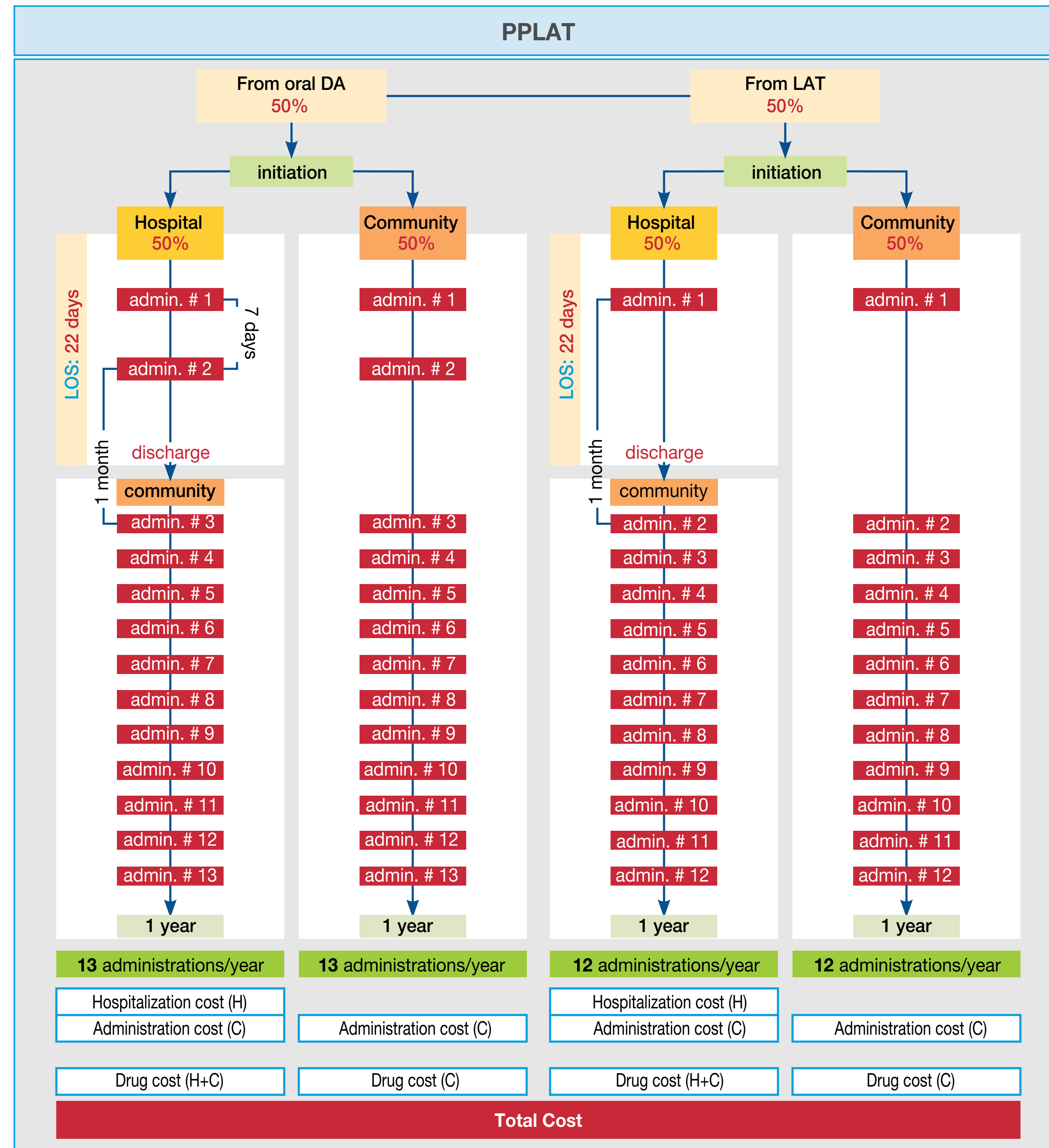
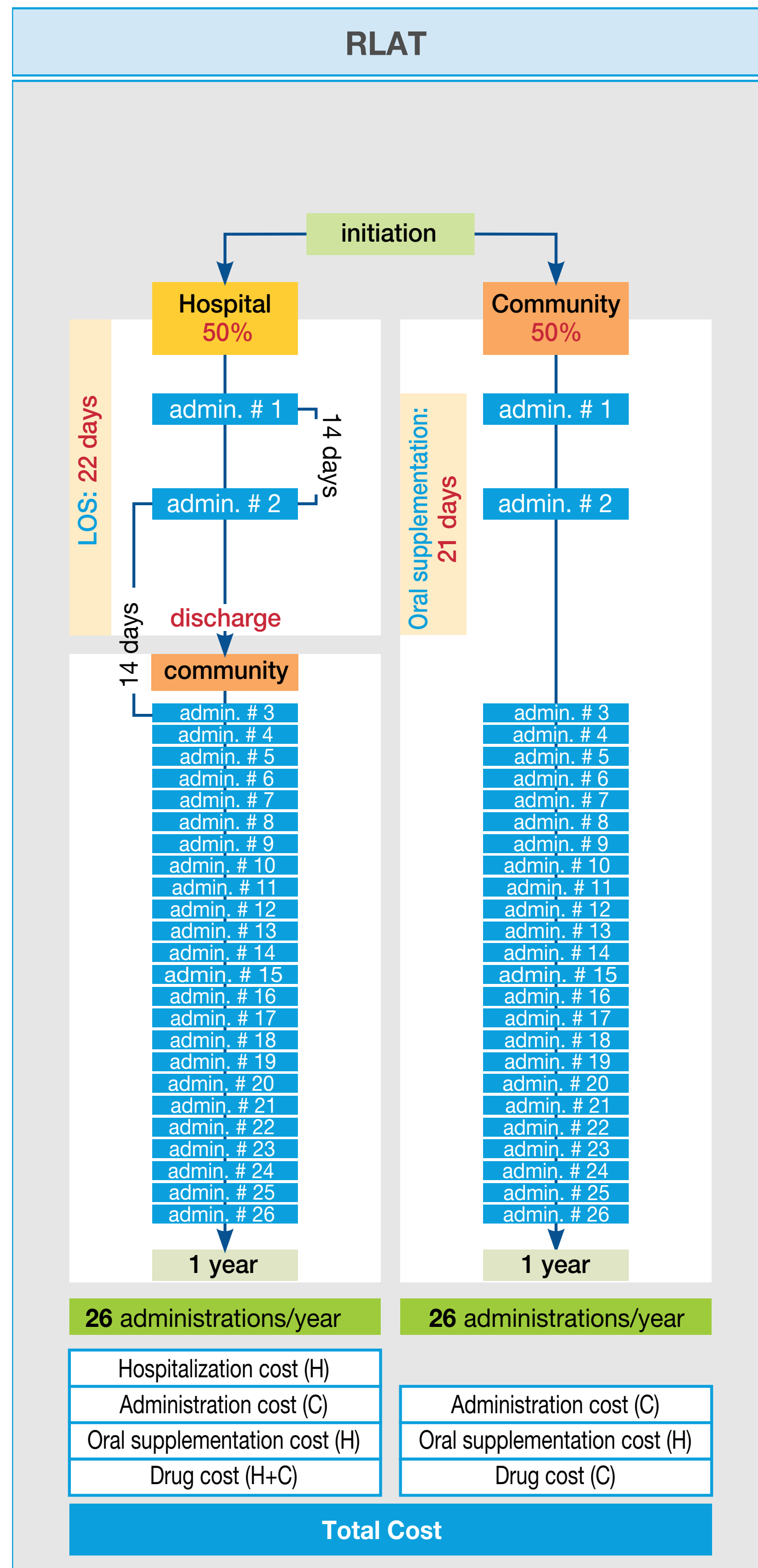


Table 1. Main parameters

Parameter	Value
Length of hospital stay reduction	0%
Proportion of patients initiating treatment in hospital/community	50%/50%
Proportion of patients initiating from LAT or oral DA	50%/50%
PPLAT and RLAT doses	Average dose (50-150)
Length of hospital stay	22 days <sup>4</sup>
Nurse visit cost	€25.94 <sup>5</sup>
Hospital stay (daily cost)	€293.29 <sup>6</sup>

## Results

- The results of sensitivity analysis carried out for the main model parameters confirmed the model robustness, even in the most unfavourable scenarios:
  - If 100% of patients initiate treatment in community the savings could be €486 per patient
  - If 100% of patients initiate treatment from an oral DA the savings could be €277 per patient/year
- If reduction of LOS by approximately one third associated to PPLAT (as shown by some studies)<sup>1,7</sup> would have been applied, the savings could be up to €1,497 per patient/year.

### Sensitivity analysis [I] (main parameters) 1<sup>er</sup> year

Scenario	1 <sup>er</sup> year (EUR/year)	2 <sup>nd</sup> year and onwards (EUR/year)
<b>Base Case</b> Average dose; 0% reduction in LoS 50:50 Hospital/Community initiation; 50:50 from DA/LAT	-470 EUR/year	0
<b>Hospital/Community initiation [50%/50%]</b> 0-100%	-486 EUR/year 100% initiation in community 0% initiation in hospital	-454 EUR/year 0% initiation community 100% initiation in hospital
<b>Switch from DA/LAT [50%/50%]</b> 0-100%	-663 EUR/year 0% from DA 100% from LAT	-277 EUR/year 100% from DA 0% from LAT
<b>LoS reduction [0%]</b> 0-33%	-1,497 EUR/year 33% reduction	-470 EUR/year 0% reduction
<b>Doses [average]</b> PPLAT 50-150 RLAT 25-75	-2,113 EUR/year PPLAT 150 RLAT 75	-637 EUR/year PPLAT 75 RLAT 37,5

### Sensitivity analysis [II] (main parameters) Maintenance treatment in the 2<sup>nd</sup> year and onwards

Scenario	1 <sup>er</sup> year (EUR/year)	2 <sup>nd</sup> year and onwards (EUR/year)
<b>Base Case</b> Average dose; 0% reduction in LoS 50:50 Hospital/Community initiation; 50:50 from DA/LAT	-689 EUR/year	0
<b>Hospital/Community initiation [50%/50%]</b> 0-100%	-689 EUR/year 100% initiation in community 0% initiation in hospital	-689 EUR/year 100% initiation community 0% initiation in hospital
<b>From DA/LAT [50%/50%]</b> 0-100%	-689 EUR/year 0% from DA 100% from LAT	-689 EUR/year 100% from DA 0% from LAT
<b>LoS reduction [0%]</b> 0-33%	-689 EUR/year 33% reduction	-689 EUR/year 0% reduction
<b>Doses [average]</b> PPLAT 50-150 RLAT 25-75	-2,338 EUR/year PPLAT 150 RLAT 75	-869 EUR/year PPLAT 75 RLAT 37,5

## Conclusion

- Treatment of schizophrenia with paliperidone palmitate long-acting treatment could be associated with cost-savings compared to risperidone long-acting treatment, at equivalent doses.
- Savings are higher when patient is treated in the outpatient setting due to the lower acquisition cost in the community and the fewer cost of administrations required by paliperidone palmitate versus RLAT.
- To treat patients with PPLAT instead RLAT could be a cost-saving strategy for the NHS.

## References

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