

Cost management of Opioid-dependent patients receiving Concomitant treatments for Infectious or Psychiatric Comorbidities: comparison of Buprenorphine/Naloxone versus Methadone

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Introduction

Concomitant drugs for treatment of comorbidities in opiate dependence (OD) patients have potential interactions with agonist opioid treatment (AOT)¹⁻².

Objective

The objective was to estimate the annual cost associated to interactions of AOT with buprenorphine-naloxone (Suboxone®) (B/N) or methadone, and concomitant treatments associated to infectious (HIV) or psychiatric comorbidities in OD patients, using Spanish National Health System (NHS) perspective.

Methods

- A costs analysis model was developed considering the associated cost to AOT and management interactions. The AOT cost included pharmaceutical costs, production, distribution and dispensing.
- Dose schedule of B/N was 10 mg/day for 3 days (induction phase) and 8mg/day for 362 days (maintenance phase), and methadone 50,45 mg/day for 14 days and 61,52 mg/day for 351 days³ respectively.
- Mandatory rebate⁴ was applied for pharmaceutical cost of B/N (retail price including VAT)⁵.
- Production and distribution costs for methadone was obtained from the literature⁶.
- The dispensing cost was based on intake regimen (health assistance center or take-home) and type and frequency of dispensing (pharmacy or health assistance center). The percentage of patient depending on the form of administration and drug dispensing was estimated from published data³. (Figure 1)
- The consumption and frequency of the health resources was estimated from an expert panel.
- The health resources considered were medical visits for prescribing (one every six weeks) and nursing visits (five minutes for dispensing)⁶.
- The cost of methadone also included single-dose bottle, monthly cost of custody at pharmacy⁷ and urine toxicology drug screenings.
- Potential interactions between AOT and concomitant treatments (antivirals, antibacterials/antifungals, antipsychotics, anxiolytics, antidepressant and anticonvulsants), were identified to determine the additional consumption of healthcare resources for each interaction.
- Unitary resources cost (€, 2013) were obtained from a national database⁸. (Table 1)

Figure 1. Decision Tree. Distribution of patients

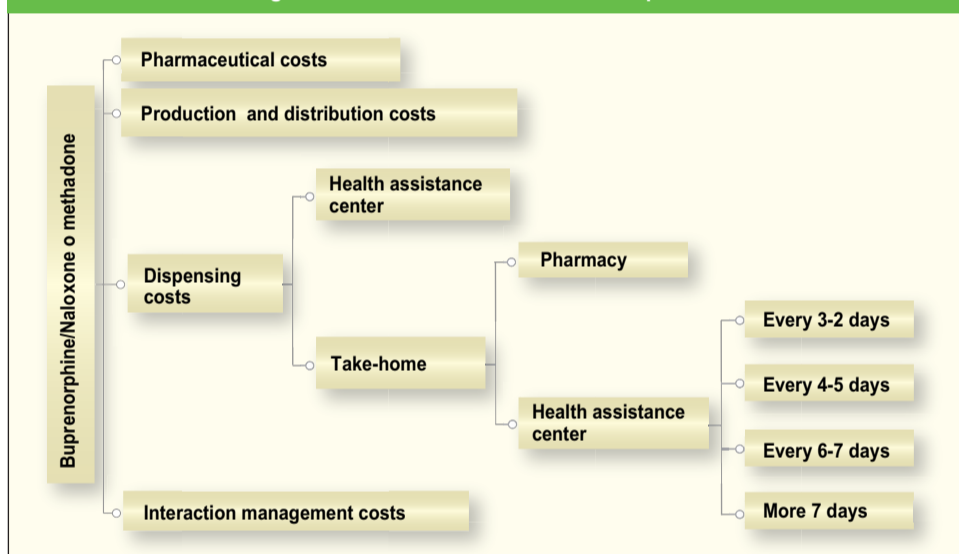


Table 1. Unitary Cost (€, 2013)

Resources	Unitary cost
Pharmaceutical	
B/N(Suboxone®) (8/2mg, 7 tablet)	€27.97 ⁵
Methadone (kg)	€564.27 ⁶
Resources	
Medical visit (psychiatry)	€46.22 ⁸
Nurse visit (minutes)	€0.34 ⁸
Custody of methadone pharmacy (patient/month)	€69.00 ⁷
Single-dose bottle (dispensing methadone)	€0.45*
Additional resources in the interaction management	
Determination of blood levels	€115.04 ⁸
Urine toxicology drug screening	€12.03 ⁸
Electrocardiogram	€33.90 ⁸

*Expert Panel.

Results

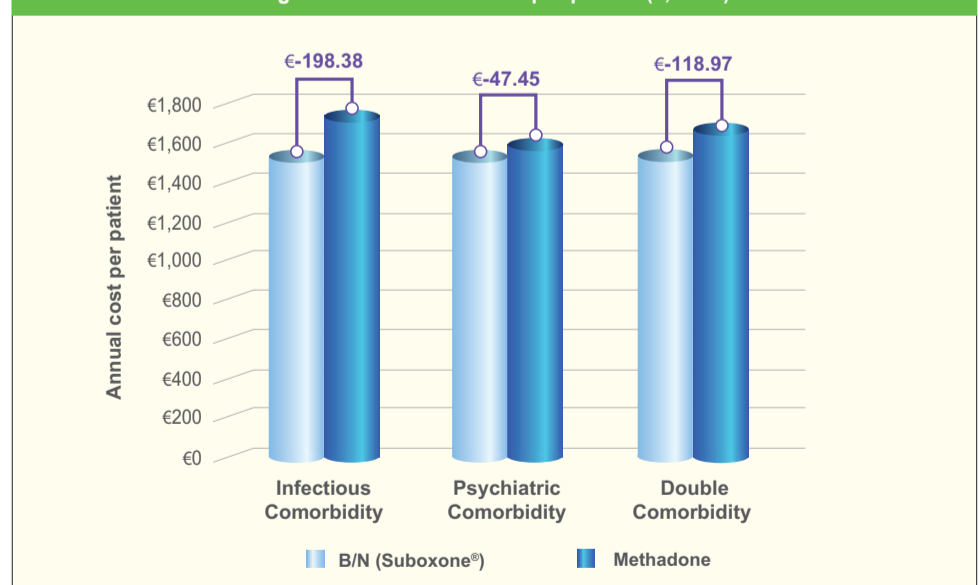
- The annual cost per patient of AOT was €1,525.97 for B/N and €1,467.29 for methadone. (Table 2)

Table 2. Annual cost per patient for AOT

Costs	B/N (Suboxone®)	Methadone
Drug cost	€1,156.25	€12.58
Production cost	€0.00	€378.67
Distribution cost	€0.00	€258.31
Dispensing cost	€369.72	€817.73
TOTAL COST (€, 2013)	€1,525.97	€1,467.29

- The average annual cost per patient for interactions management was €257.07 (infectious comorbidities), €114.03 (psychiatric comorbidities) and €185.55 (double comorbidity) with methadone and €7.9 with B/N in psychiatric comorbidities. B/N was not associated to infectious comorbidity for interactions management.
- Total annual costs of B/N were €1,525.97, €1,533.87 and €1,533.87 compared to €1,724.35, €1,581.32 and €1,652.84 for methadone per patient with infectious, psychiatric or double comorbidity respectively. (Figure 2)

Figure 2. Total annual cost per patient (€, 2013)



Conclusions

Compared to methadone, the total cost per patient with OD was lower with B/N (ranging from €47.45-€198.38 per year) derived from the differences in interactions cost management, associated to concomitant treatment of infectious and/or psychiatric comorbidities.

References

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