



health

Department:  
Health  
REPUBLIC OF SOUTH AFRICA



**South African National Essential Medicine List  
Primary Healthcare and Adult Hospital Level Medication Review Process  
Component: Pain**

**MORPHINE COSTING ANALYSIS**

Date: 7 May 2018

**A: Cost of Mist Morphine 10mg/ml preparation**

RAW MATERIALS	QUANTITY	COST
Morphine Hydrochloride	10g	R 299.22 <sup>1</sup>
Aqueous Chloroform Concentrate	250ml	R 47.43 <sup>2</sup>
Water for Injection	10 000ml	R 117.50 <sup>3</sup>
<b>Total cost of preparation</b>		<b>R 464.15</b>
Cost for each dose (10mg/10ml)		R 0.46
Cost of 2000ml preparation (excluding cost of employing a pharmacist)		R 92.83
Cost of 5000ml preparation (excluding cost of employing a pharmacist)		R 232.08

**Cost based on standard dosage prescribed:**

Standard dosage prescribed is 10mg/10ml 4hourly for a 28-day supply = 1680 ml. A total quantity of 2000 ml is usually dispensed:

$$= R 464.15/10\ 000ml \times 2000ml = \mathbf{R\ 92.83}$$

High dosage prescribed as 30mg/30ml 4 hourly for a 28-day supply = 5040 ml. A total quantity of 5000 ml is usually dispensed:

$$= R 464.15/10\ 000ml \times 5000ml = \mathbf{R\ 232.08}$$

**Cost to employ a pharmacist:**

The cost of employing a pharmacist to compound/supervise the compounding of a 10 000 ml/ 2000ml/ 5000ml batch:

$$\text{Pharmacist Grade 2 (full time)} = R\ 673\ 494\ \text{per annum}^4$$

$$= \mathbf{R\ 323.80\ \text{per hour}}$$

**Assumption:**

Total time to manufacture 10 000ml/ 2000ml/ 5000ml of mist morphine 10mg/ml = **30 minutes**

Total cost of employing a pharmacist to compound/supervise the compounding of the 10 000ml / 2000ml/ 5000ml preparation = **R 161.90**

<sup>1</sup> HP08-2017SSP

<sup>2</sup> Product not currently listed on tender. Thus, adjusted 2012 price (R34.40 – Adult review of 2012), using SEPA adjustment for 2012 (2.14%); 2013 (5.8%); 2014 (5.82%); 2015 (7.50%); 2016 (4.8%); 2017 (5.7%); 2018 (1.26%)

<sup>3</sup> RT299-2017

<sup>4</sup> DPSA salary scales, 1 April 2017 (Assuming 40 hours/ week)

**Total cost:***10mg/10ml 4hourly for a 28-day supply*Raw materials (**R 92.83**) + cost of employing pharmacist to compound/supervise the compounding of the 10mg/ml preparation; 2000ml (**R 161.90**) = **R 254.73***30mg/30ml 4hourly for a 28-day supply*Raw materials (**R 232.08**) + cost of employing pharmacist to compound/supervise the compounding of the 10mg/ml preparation; 2000ml (**R 161.90**) = **R 393.98****B: Comparative cost of Morphine Sulphate tablets****Assumption:**

The following Mist Morphine doses are comparable to the following controlled-release doses:

- Mist Morphine 10mg/10ml 4hourly comparable to Morphine Sulphate 10mg controlled-release 12hourly
- Mist Morphine 30mg/30ml 4hourly comparable to Morphine Sulphate 30mg controlled-release 12hourly

**Cost of Morphine Sulphate tablets:**

Strength/dosage form	Cost per 60 tablets	Cost per tablet	Cost of 10mg/30mg 12 hourly x 28 days
10mg controlled-release	R 104.11 <sup>5</sup>	R 1.72	R 97.17
30mg controlled-release	R 163.77 <sup>6</sup>	R 2.73	R 152.85

**Cost to employ a pharmacist:**

The cost of employing a pharmacist to dispense 56 x Morphine Sulphate tablets, 10mg/ 30mg controlled-release tablets:

$$\begin{aligned} \text{Pharmacist Grade 2 (full time)} &= \text{R } 673\,494 \text{ per annum}^4 \\ &= \text{R } 323.80 \text{ per hour} \end{aligned}$$

**Assumption:**Total time to dispense 56 x Morphine Sulphate tablets, 10mg/ 30mg controlled-release tablets = **10 minutes**Total cost of employing a pharmacist to dispense 56 x Morphine Sulphate tablets, 10mg/ 30mg controlled-release tablets = **R 53.97****Total cost:***10mg controlled-release 12hourly for a 28-day supply*Medicine (**R 97.17**) + cost of employing pharmacist to compound/supervise the compounding of the 10mg/ml preparation; 2000ml (**R 53.97**) = **R 151.14***30mg controlled-release 12hourly for a 28-day supply*Medicine (**R 152.85**) + cost of employing pharmacist to compound/supervise the compounding of the 10mg/ml preparation; 2000ml (**R 53.97**) = **R 206.82****C: SUMMARY (28 DAY SUPPLY):**

Strength	Cost for Mist Morphine	Cost for CR tablets
10 mg/ dose	R 254.73	R 151.14
30 mg/ dose	R 398.98	R 206.82

**Funding and conflict of interest:**

No funds were received for this costing analysis. Ms T Leong, Secretariat to the Primary Health Care and Adult Hospital Level Committees, has no conflicts of interest to declare.

<sup>5</sup> HP09-2016SD<sup>6</sup> HP09-2016SD