

# *The sustainable value of analgesics within the NHS:*

Use of oral pre-operative analgesia over  
IV analgesics: In reducing the  
environmental and economic impact?

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## Aims

### Calculate per 1g paracetamol:

- 1: Carbon footprint.
- 2: Cost
- 3: Clinical efficacy

### To evaluate for each delivery format:

- Oral tablets
- Oral effervescent
- Oral suspension
- Suppositories
- Intravenous (IV)

Climate change has been defined by the World Health Organisation as:

‘The most substantial threat to human health in the 21st century’

- WHO, 2021

Sustainable  
value

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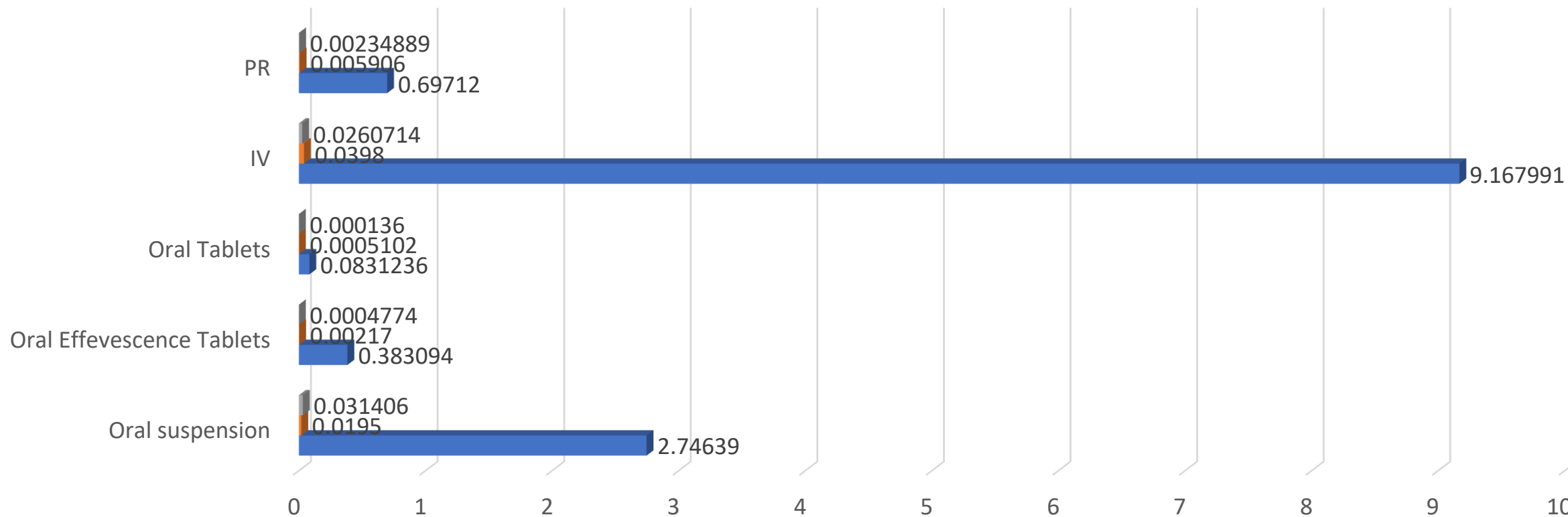
Outcomes for patients and populations

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Environmental + social + financial impacts  
(the 'triple bottom line')

# Results: Sub-sections of total GHG emissions

kgCO<sub>2</sub>e per 1 g paracetamol

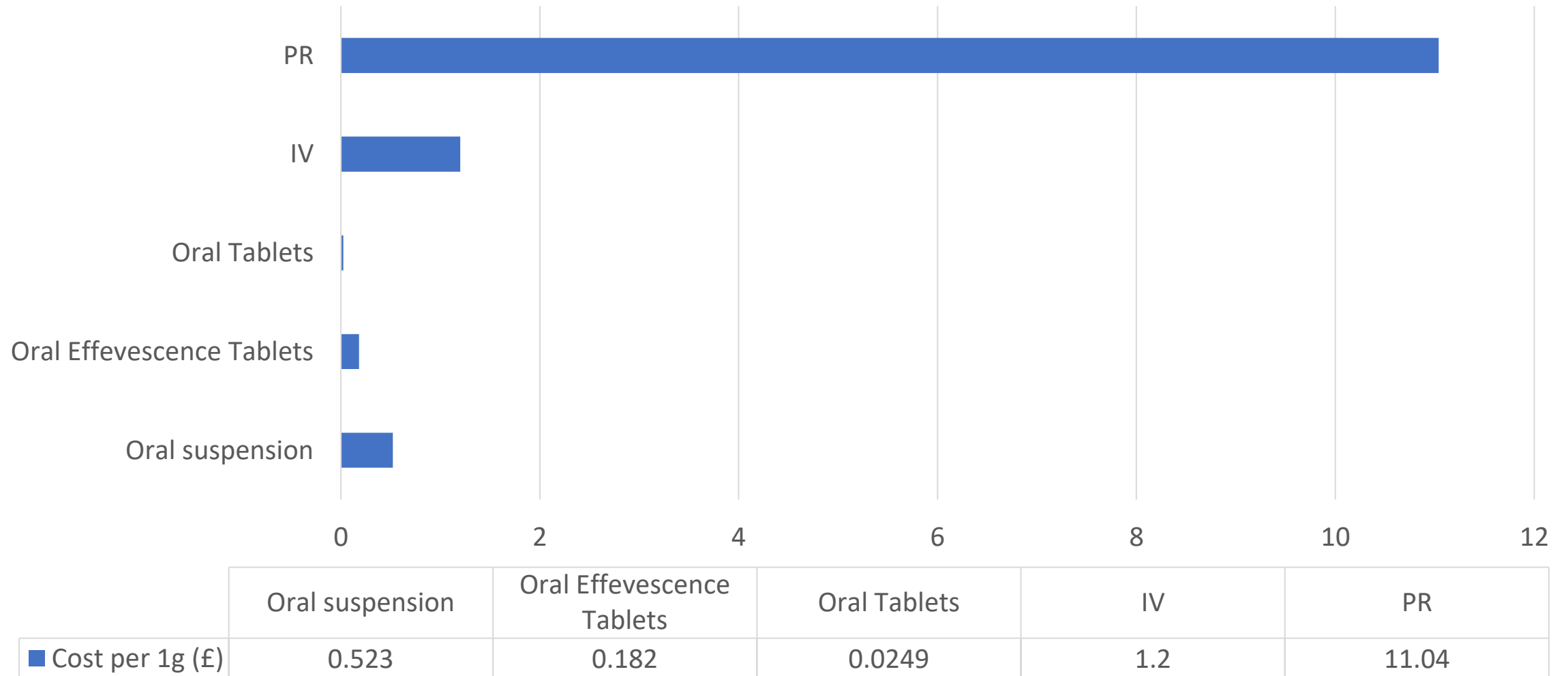


	Oral suspension	Oral Effevescence Tablets	Oral Tablets	IV	PR
■ Waste	0.031406	0.0004774	0.000136	0.0260714	0.00234889
■ Travel	0.0195	0.00217	0.0005102	0.0398	0.005906
■ Cradel to gate	2.74639	0.383094	0.0831236	9.167991	0.69712

■ Waste ■ Travel ■ Cradel to gate

# Results: Price

*£ per 1g paracetamol*



1g of IV paracetamol vs other paracetamol  
preparation's

*GHC  
emissions*

<u>IV</u>	PR	Oral Tablets	Oral Effervescent	Oral Suspension
<u>1</u>	13	110	24	3.5

*Price*

<u>IV</u>	PR	Oral Tablets	Oral Effervescent	Oral Suspension
<u>1</u>	1/10 <sup>th</sup>	48	7	2.5

# Clinical guidelines

- To instigate a clinical change from IV to oral paracetamol preoperatively , through creating the 'IMPROVE' project at Noah's ark
- **Improving Paracetamol use with Routine Oral over Venous administration**
- Guidelines have been formatted for both doctors and nurses involved in pre-operative patients care

## Anesthetists

- 1. Prescribe Oral Paracetamol At Your Preoperative Visit (20mg/kg)
- 2. When prescribing routine post-op paracetamol include note "IV only if PO not possible"

## Nurses

- 1. Weigh patients early
- 2. Anaesthetist to prescribe oral dose 20 mg/kg (paracetamol suspension 250mg/5ml or tablet as per weight)
- 3. Give ASAP on the ward
- 4. Tick box on admission board to indicate completion
- 5. Feel empowered to ask anaesthetist if they have forgotten