

BUDGET IMPACT ANALYSIS OF SMART INFUSION PUMPS WITH DEDICATED EQUIPMENT VS. PUMPS WITH BASIC PROGRAMMING IN INFUSION THERAPY IN ICU

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OBJECTIVES

To analyze the hospitalization costs of using smart infusion pumps and dedicated equipment versus pumps with basic programming in ICU infusion therapy.

METHODS

Budget impact analysis from the payer's perspective. A scenario of 20 high-complexity ICU beds and the following pharmacoeconomic data were considered: 28 days of hospitalization (14 of them in ICU), cost of R\$1,180 per day¹, overall mortality rate of 0.6%², cost of R\$24,000 per death³ and R\$16,520 per failures in infusion therapy^{4,5}, useful life of 48 hours for pump equipment with basic programming and 96 hours for smart pumps⁶, at respective unit costs of R\$840 and R\$1,110⁷; 26% vs 15% of failures in infusion therapy by pump with basic programming and smart pumps, respectively⁴.

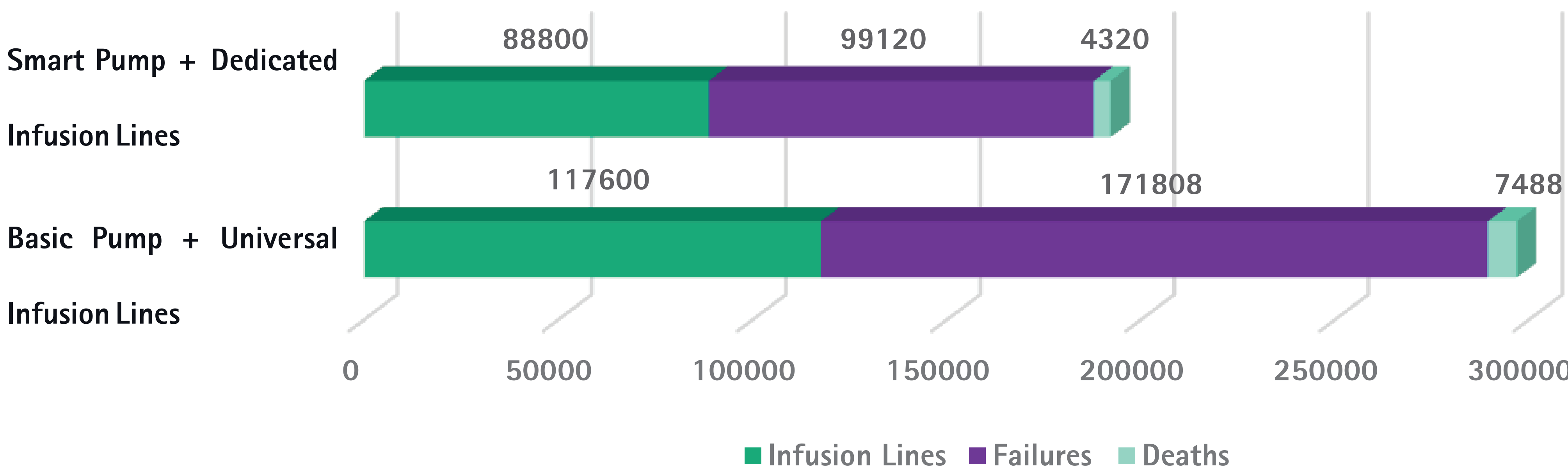
RESULTS

Despite the higher unit cost, smart pump equipment represents savings in the 14-day scenario, due to greater durability (R\$ 4,440 vs R\$ 5,880). When accounting for annual costs with materials and medical assistance due to failures, smart pumps with dedicated equipment present savings of 35% (R\$ 192,240 vs R\$ 296,896).

Table 1: Characteristics and costs of infusion lines

	Smart Pump w/ dedicated infusion lines	Basic pumps w/ universal infusion
Lifespan (hours)	48	96
Lines needed (14 day-period)	7	2
Unitary Costs (BRL)	840	1110

Graphic 1: 14-day costs comparison (BRL)



CONCLUSION

Smart pumps with dedicated equipment present savings of 35% , considering the time the equipment remains in place, reduction in the possibility of failures in infusion therapy, shorter patient hospitalization time and probability of death, which places this technology with the potential to promote high-valued care, by providing better outcomes at lower costs.

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