INTRODUCTION
Mechanical ventilation (MV) is central to intensive care unit (ICU) medicine, but this life-saving intervention is expensive and comes with complexities.

- A patient in the ICU receiving MV costs circa $2,000 per day.
- Mechanical ventilation (MV) is central to intensive care unit (ICU) medicine, but this life-saving intervention is expensive and comes with complexities.
- Data analysis indicated that PAV+ mode dominated PSV at 1 year (lower cost and higher QALYs). The mean cost per QALY gained was $160,543 (median $6,933).

RESULTS
SHORT-TERM (1-YEAR) OUTCOMES
- The mean cost per QALY gained for PAV+ mode vs. PSV at 40 years (the survival paradox).
- Life expectancy was 0.75 in the ICU, 0.83 in the hospital, and 0.97 in the first year post discharge.
- Lower in ICU and in-hospital mortality.

CONCLUSIONS
- Under modelled conditions, PAV+ mode increased patient quality of life and life expectancy.
- In the first year, healthcare costs decreased with use of PAV+ mode.
- Use of PAV+ mode increased patient safety, meaning that the costs of treating complications was reduced.
- Longer life expectancy with use of PAV+ mode compared with use of PSV resulted in increased healthcare costs at 40 years (the survival paradox).

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REFERENCES
5. Long-term (40-year) outcomes
- Care practices today can have long-term impacts on healthcare costs, which is of interest to National payers.
- Over 40-years, use of PSV for MV resulted in healthcare costs of $153,610.
- In the same period, use of PAV+ mode returned costs of $160,543, an increase of $6,933.
- Use of PAV+ mode led to increased life expectancy (+1.57 years, 13.01 vs. 11.45) and quality-adjusted life expectancy (+0.96 QALYs, 7.95 vs. 6.99).
- The mean cost per QALY gained was $7,380 (median $4,955).
- PAV+ mode was likely (100%) to be considered cost-effective versus PSV at 40 years.

AIC
To compare health and cost outcomes of PAV+ mode with pressure support ventilation (PSV) for patients receiving mechanical ventilation in the ICU.

METHOD
- Literature review of MEDLINE and PubMed indexed publications.
- Data analysis of identified clinical trials of PAV+ mode (5 randomized, controlled trials and 1 comparative study).

MODEL DESIGN
Data analysis indicated that PAV+ mode was associated with:
- Reduced asynchrony and use of tracheostomy.
- Higher success in spontaneous breathing trials.
- Shorter time on mechanical ventilation.
- Lower in ICU and in-hospital mortality.
- Shorter time in ICU, longer time in hospital.

CONCLUSIONS
- Under modelled conditions, PAV+ mode increased patient quality of life and life expectancy.
- In the first year, healthcare costs decreased with use of PAV+ mode.
- Use of PAV+ mode increased patient safety, meaning that the costs of treating complications was reduced.
- Longer life expectancy with use of PAV+ mode compared with use of PSV resulted in increased healthcare costs at 40 years (the survival paradox).

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