

Why not Remifentanil PCA? From “Can we?” to “We do” in labour analgesia

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INTRODUCTION

- Labour pain is highly variable, and no single analgesic technique meets all women's needs. While epidural analgesia remains the gold standard, a substantial proportion of women either decline it or are unable to receive it. At Liverpool Women's Hospital (LWH), epidural uptake is approximately 25%, meaning that around 75% of women rely on alternative forms of labour analgesia.
- Remifentanil patient-controlled analgesia (rPCA) is a recognised alternative, with evidence demonstrating comparable maternal satisfaction and obstetric outcomes. However, its wider adoption has been limited by concerns regarding safety, monitoring requirements, and staff workload.
- Historically, at LWH, rPCA utilisation was low, reserved for exceptional circumstances, and often associated with negative staff perceptions.

Aim

- To implement rPCA as standard analgesia option for all women in labour and evaluate uptake, efficacy, and staff/patient experience.

METHODS

- A multidisciplinary quality improvement project including:

Protocol & Patient Information

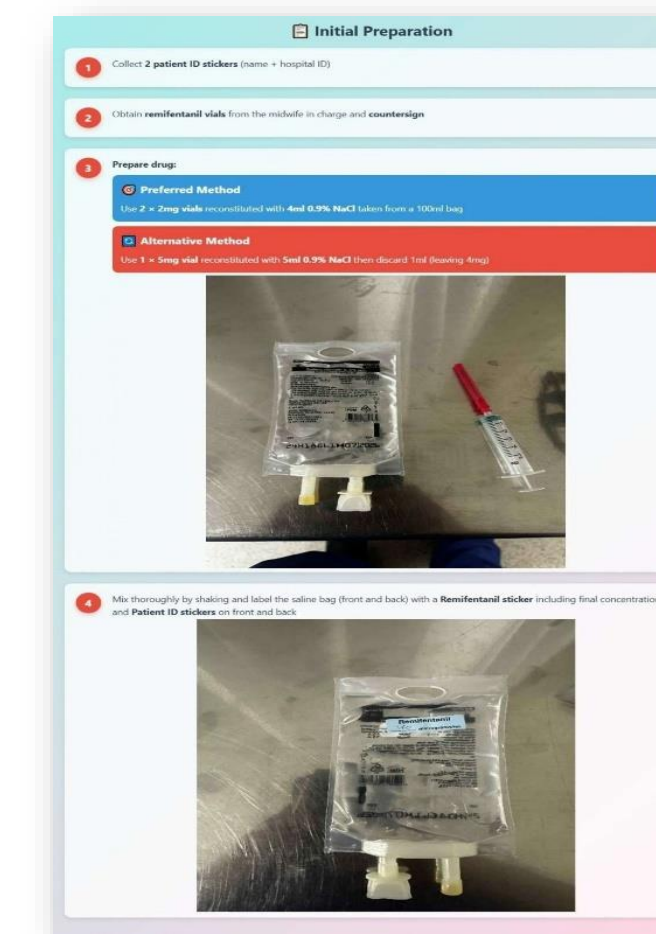
- Updated rPCA protocol
- Developed a patient information leaflet to support shared decision-making
- Adopted LabourPains comparison cards and encouraged their use for women in labour
- Displayed posters with QR codes in every delivery room, linking to the LabourPains website for further information

Staff Engagement & Education

- Developed a training video covering indications, rationale, evidence, setup, and monitoring; incorporated into mandatory midwifery training, widely shared via Microsoft Teams, and required prior to caring for rPCA patients

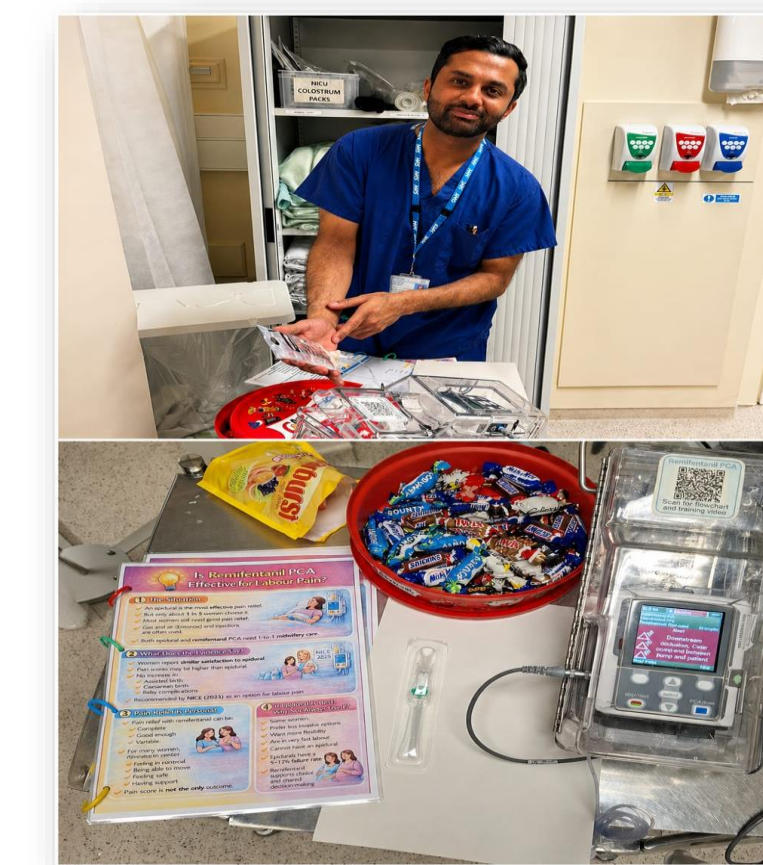


- Delivered online Q&A sessions and developed FAQ documents
- Conducted several midwives' "tea trolley" training sessions
- Included rPCA training in trainee induction
- Developed a step-by-step illustrated PDF guide (with photographs) for rPCA setup for trainees
- Displayed QR codes on pumps linking to all training materials for easy access
- Regular emails include all available resources
- Reinforcement of safety & BLS skills

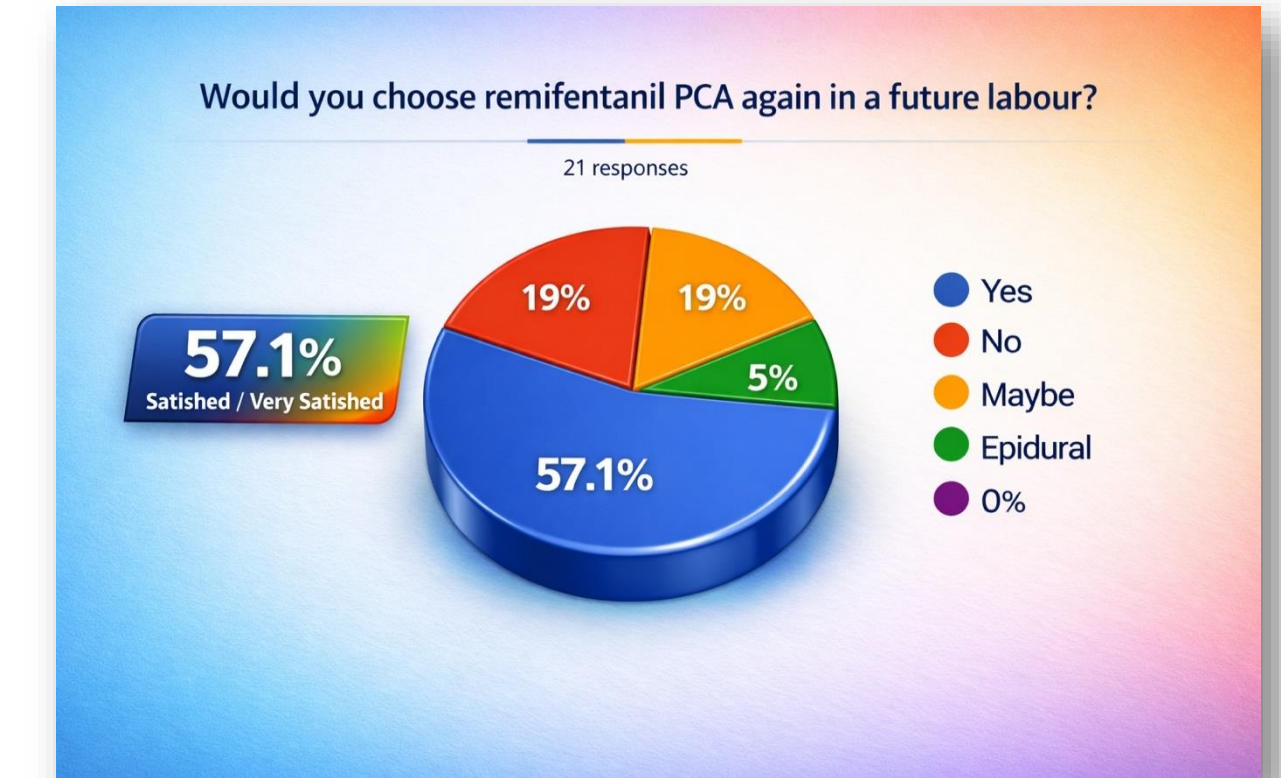
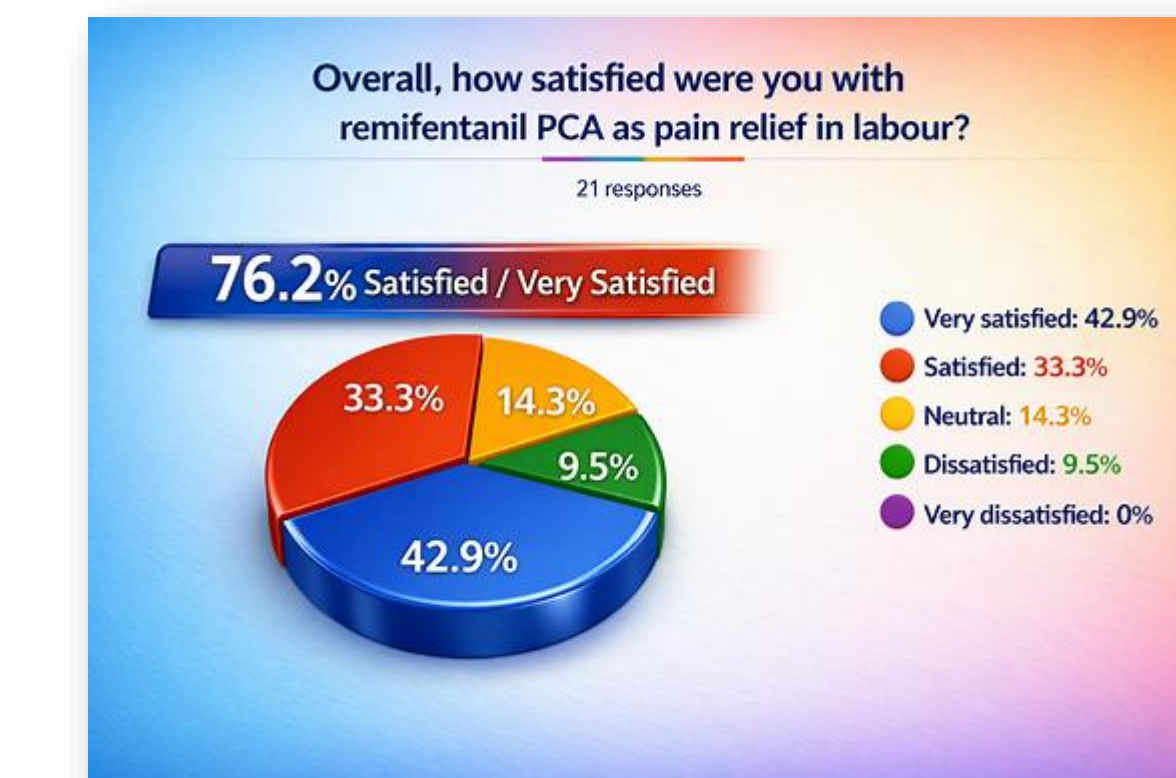


Evaluation

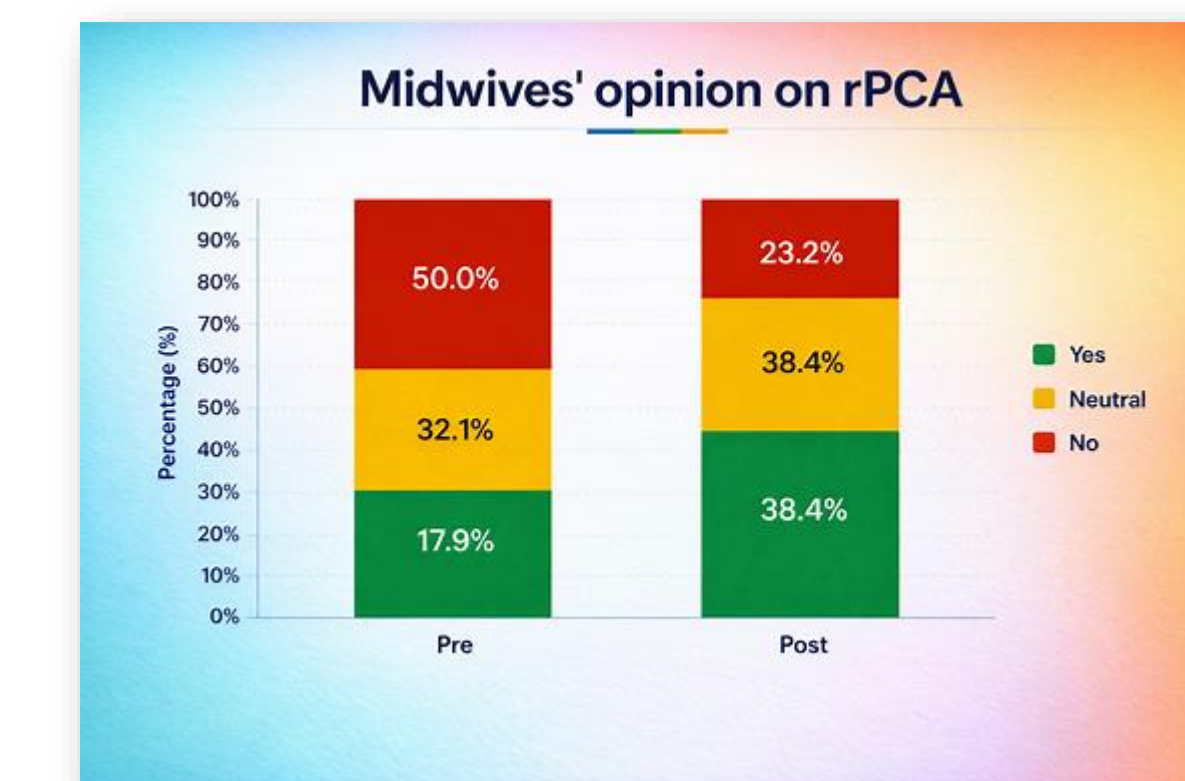
- rPCA uptake and conversion to epidural (failure rate).
- Patient satisfaction survey
- Midwives surveys (pre- and post-implementation)



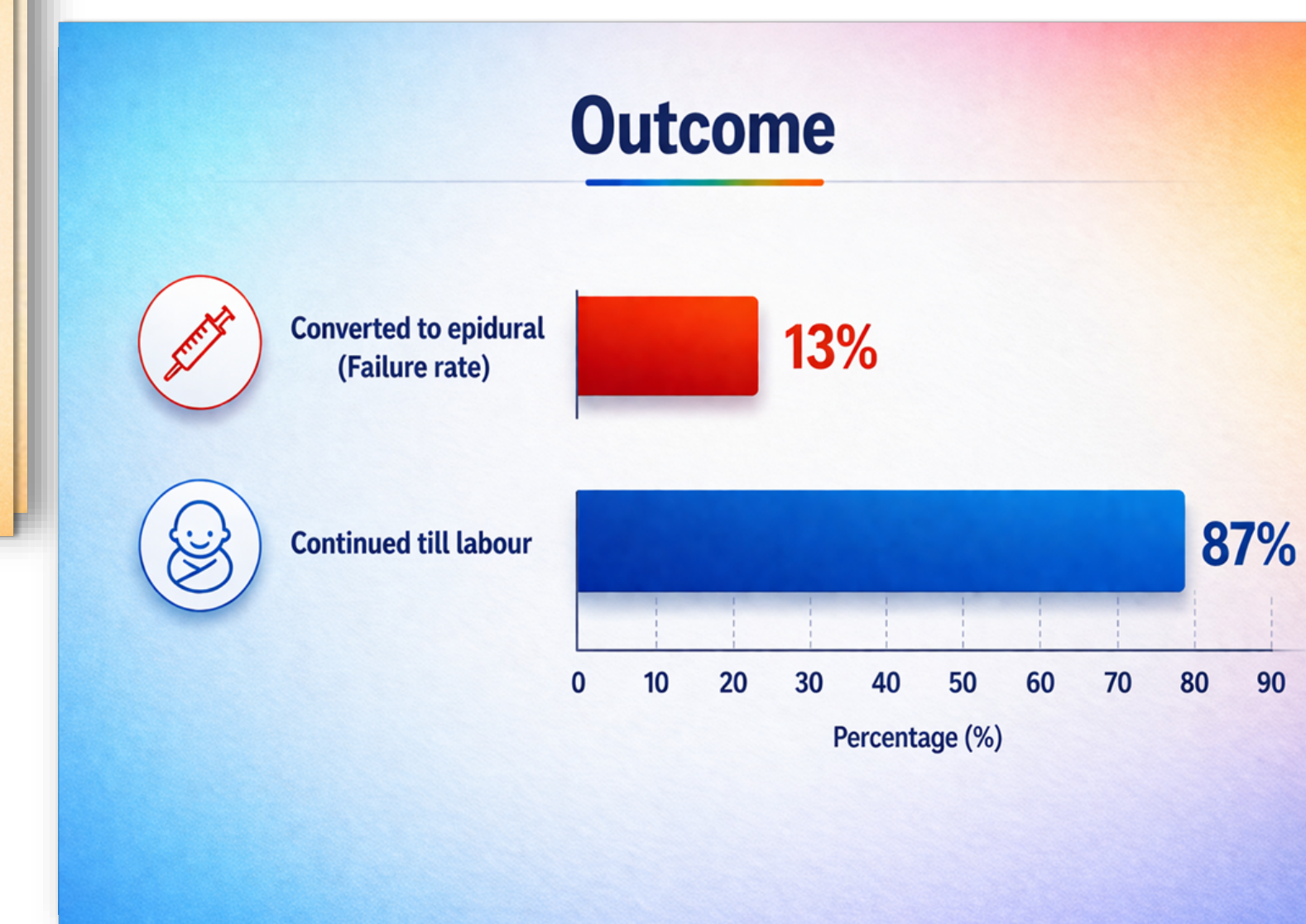
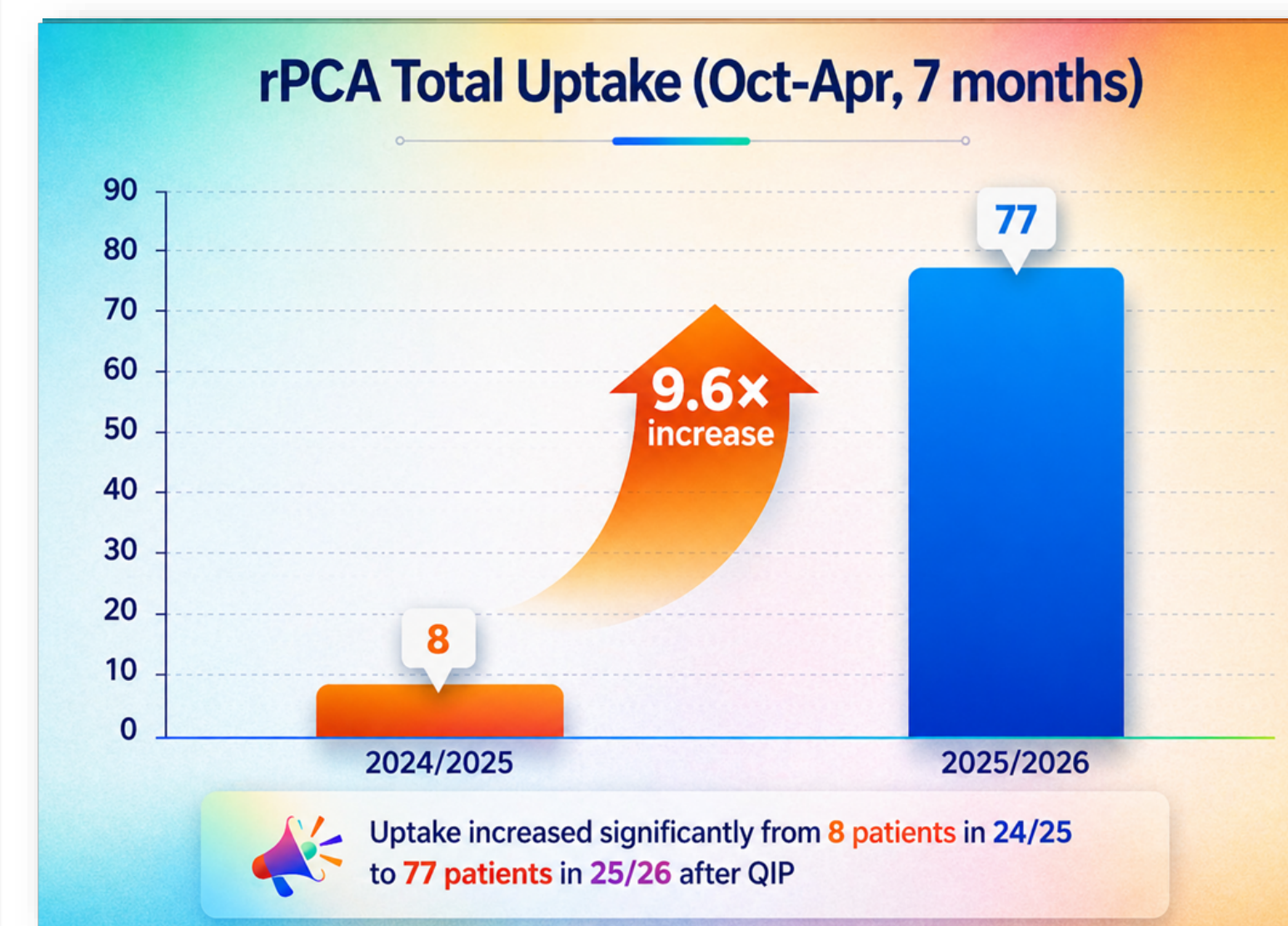
Patient Satisfaction Survey:



Midwives' Feedback:



RESULTS



CONCLUSION

- Expanding rPCA improved maternal choice and autonomy
- rPCA fills an important gap for women not choosing epidural
- rPCA can be safely and effectively implemented as a standard labour analgesia option
- Success depends on:
 - Structured education and engagement
 - Multidisciplinary collaboration
 - Ongoing feedback
- Midwives' perceptions appeared to improve over time, although interpretation is limited by low follow-up survey participation (57 vs 13 respondents), highlighting the need for improved engagement and response rates for reliable evaluation

REFERENCES

- Daniels B, Carvalho B, Riley ET, et al. Remifentanil patient-controlled analgesia for labour: a review of current evidence. *Anaesthesia* 2020;75:1-10.
- Lei X, Wang L, Xu Y, et al. The efficacy and safety of remifentanil patient-controlled analgesia versus epidural analgesia in labour: a systematic review and meta-analysis. *PLOS ONE* 2022;17:e0275716.