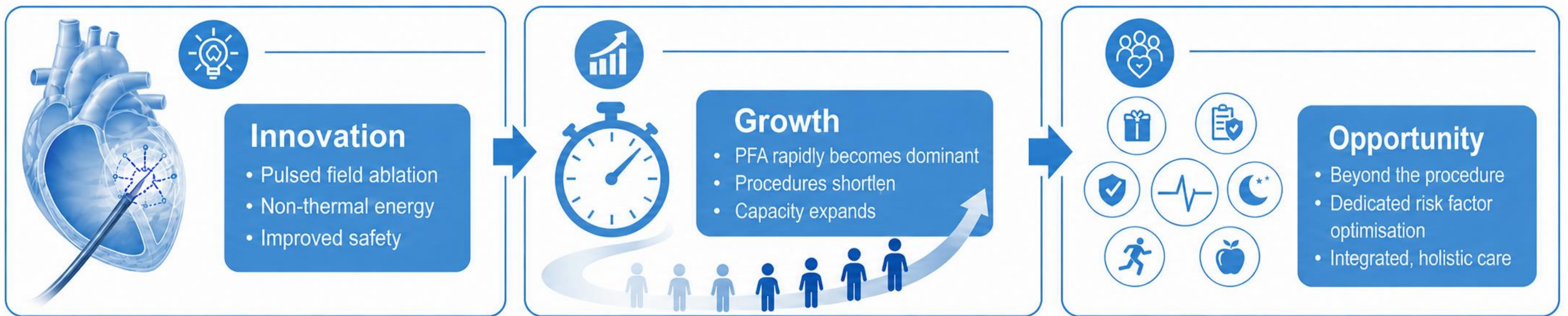


# Expanding Ablation Capacity With Innovation

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## BACKGROUND

Atrial fibrillation is a leading cause of cardiovascular morbidity and healthcare utilisation. Catheter-based pulmonary vein isolation (PVI) is an established rhythm control therapy.

Pulsed field ablation (PFA) is a non-thermal modality. It uses electroporation to selectively target myocardial tissue, with favourable safety and efficiency profiles compared with thermal techniques.

PFA was implemented at the Royal Brisbane and Women's Hospital in 2024. We evaluated its downstream impact on service capacity and the patient cohort.

## AIMS

To determine the impacts of PFA implementation in a tertiary public hospital cardiology service, focusing on:

- Procedural throughput and capacity
- Procedural efficiency
- Cardiometabolic risk factor burden in the ablation patient cohort

## METHODS

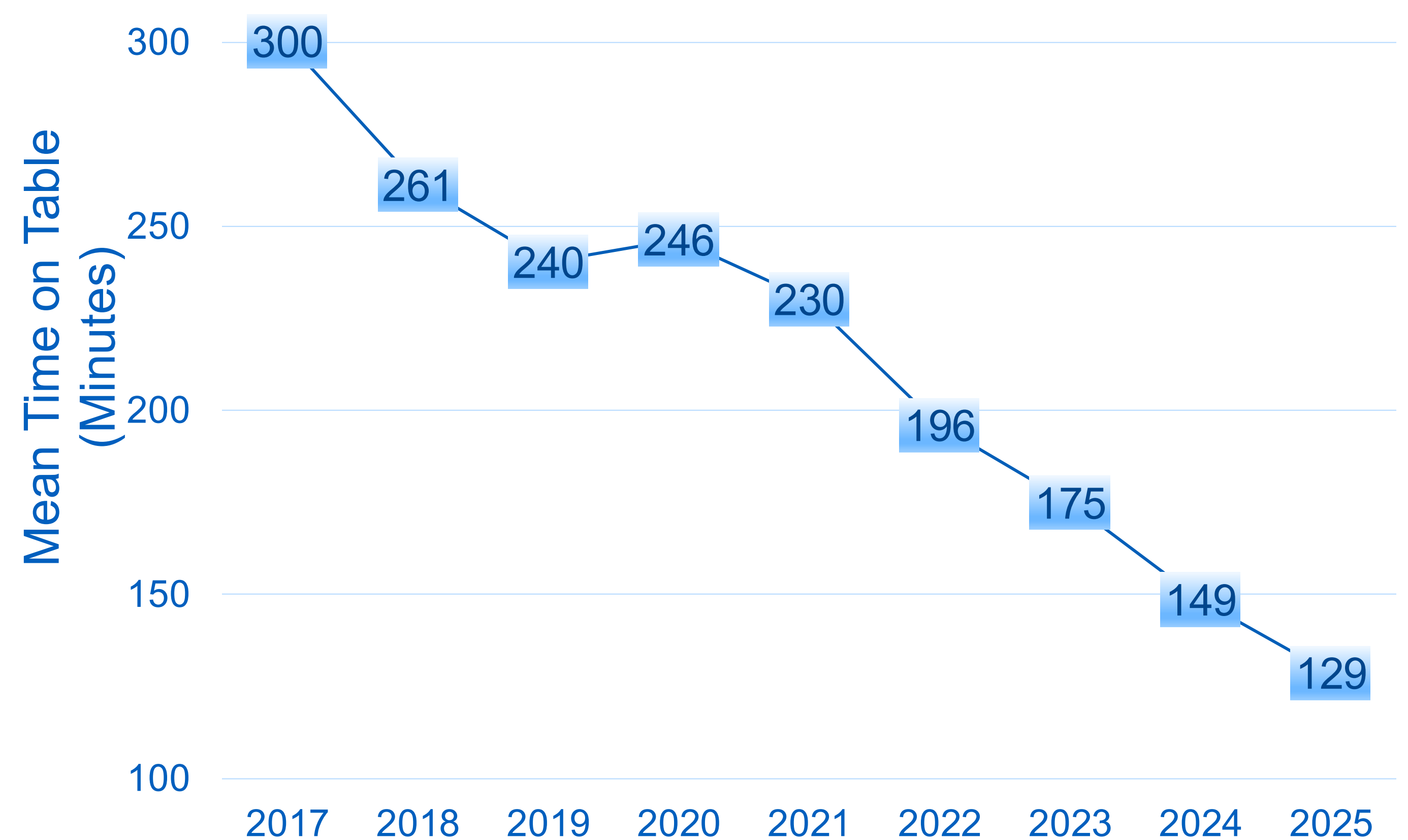
Retrospective service evaluation using Queensland Cardiac Outcomes Registry data.

All PVI procedures performed at RBWH from 2017 to 2025 were analysed.

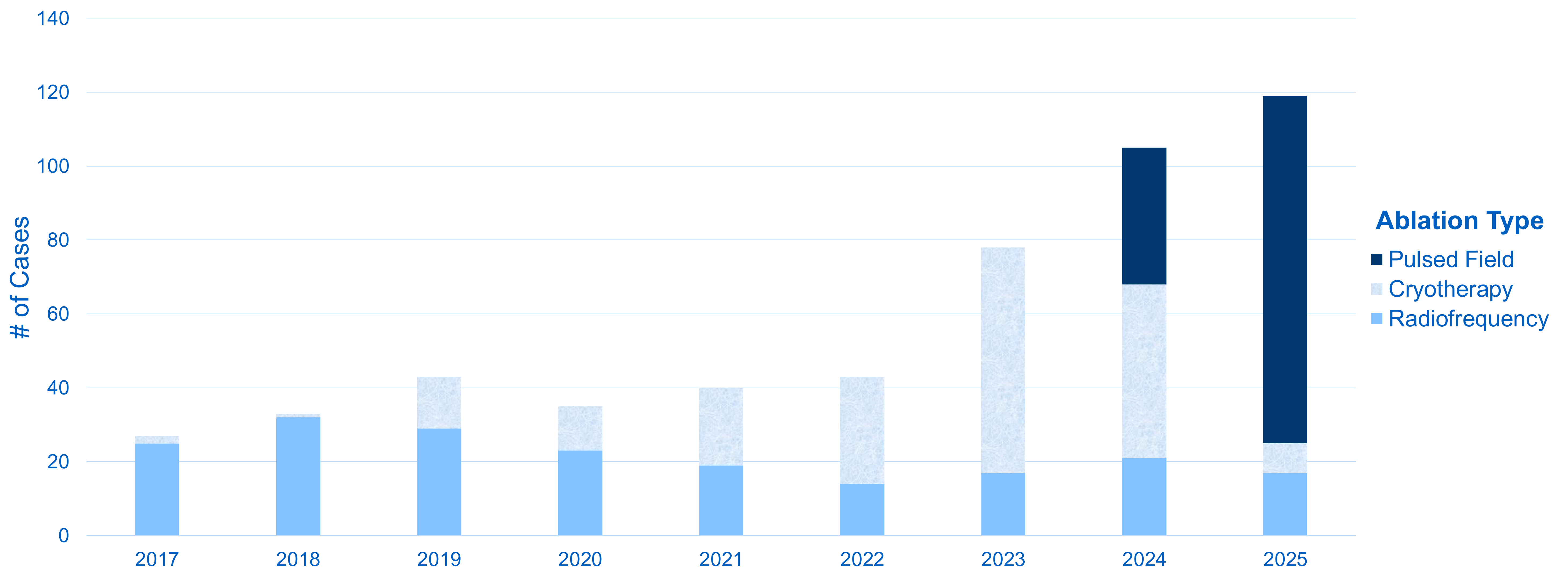
Variables: annual case volume, ablation modality (radiofrequency, cryotherapy, PFA), mean procedure time, and cardiometabolic risk factors.

Pre and post PFA trends were compared descriptively. Procedure duration was used as a proxy for efficiency.

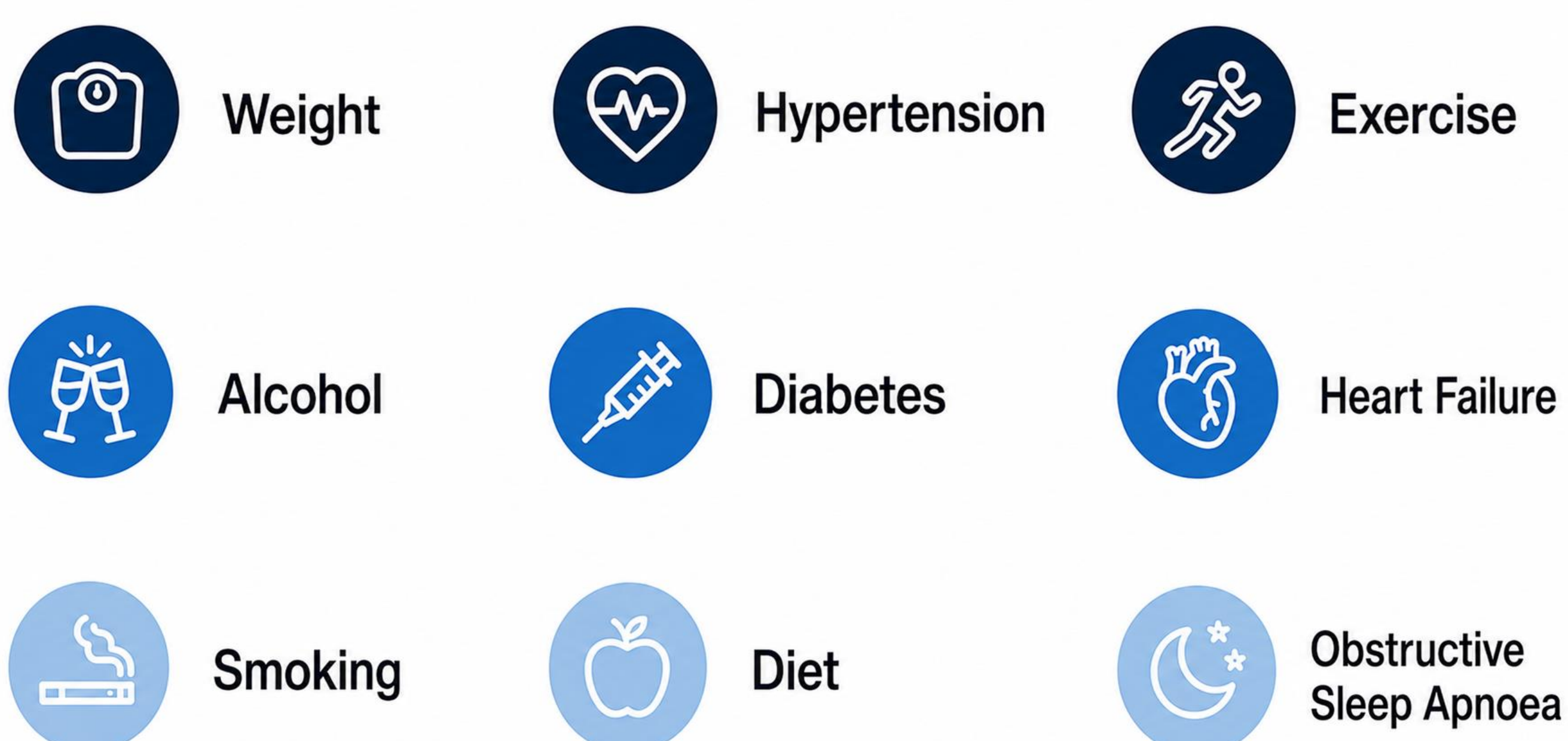
## PROCEDURAL EFFICIENCY EVOLUTION



## ANNUAL PVI VOLUME BY ABLATION MODALITY



## CARDIOMETABOLIC RISK FACTOR BURDEN



## CONCLUSIONS AND NEXT STEPS

**Capacity transformed.** PFA rapidly becomes dominant modality. This drives a substantial rise in annual ablation volumes and reduction in procedure times.

**Risk factors shape outcomes.** The impact of cardiometabolic risk factors on ablation success is increasingly recognised.

**Building on momentum.** A new GP-led risk factor optimisation clinic is integrating structured management of weight, hypertension, diabetes, sleep apnoea, and lifestyle factors into the ablation pathway.

### References

1. Reddy et al. **ADVENT trial.** *N Engl J Med.* 2023;389:1660–71.
2. Van Gelder et al. **2024 ESC AF guideline.** *Eur Heart J.* 2024;45:3314–414.
3. Pathak et al. **ARREST-AF RCT.** *JAMA Cardiol.* 2025;10:1295–304.

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Acknowledgements: RBWH Cardiology department, Electrophysiology Coordinators - Leesa Van de Venne & Gae Goodman

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