From unpersonalised to personalized breast cancer follow-up in clinical practice in the Netherlands: will artificial intelligence make a difference?

HSD38

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BACKGROUND & OBJECTIVE

- Artificial intelligence (AI) in medical imaging is a rapidly growing field and promises to improve the personalisation of care
- Evidence supporting comparative effectiveness is lacking
- Growing numbers of breast cancer patients need follow-up
- Personalisation of follow-up is a major factor in improving outcomes
- Benefit of AI in personalised follow-up compared to usual care is unclear

AIM: to describe the current unpersonalised variation in daily clinical practice using real world data

METHODS

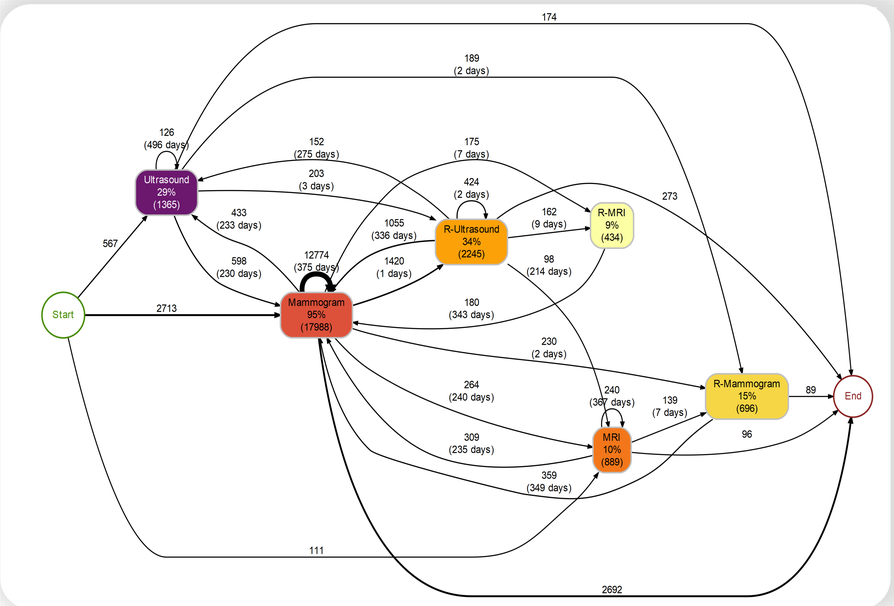
~ 3.5k breast cancer patients

Data sources: Netherlands Cancer Registry & Electronic Health Records

26k+ imaging activities

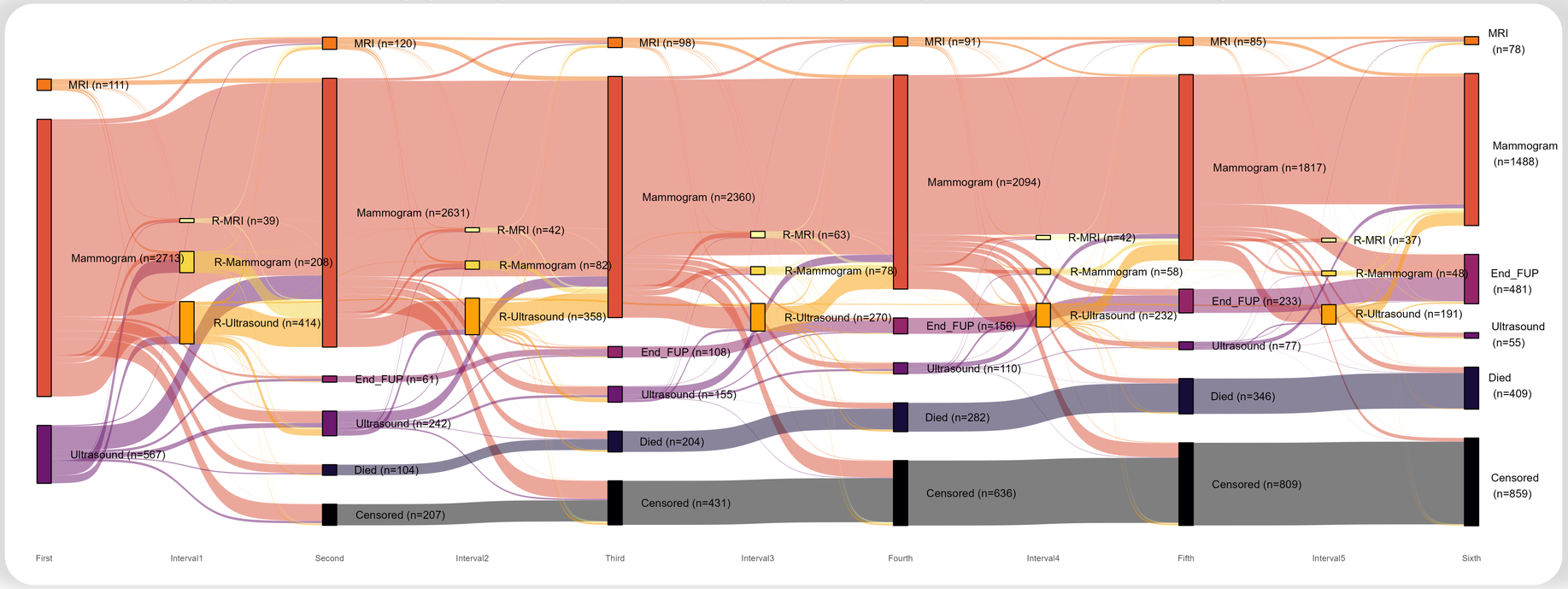
20 Years timeframe

bupaR & ggsankey



Result 2. Sequential process map. For 80% of patients, mammogram is the first follow-up imaging activity. On average, repeat ultrasound followed a mammogram the next day.

Result 1. Sankey flow diagram describing the sequence of follow-up activities during six years of follow-up and the repeat (interval) diagnostics between annual visits. Mammography is the dominant imaging modality. Within 40 days of the first imaging activity, 20% of patients are recalled for a repeat diagnostic



CONCLUSIONS

- There is a large gap between daily practice and personalised risk-based surveillance
- Variation through AI-based personalisation promises more efficient use of imaging resources and better patient outcomes
- **Next step**: a flexible simulation model is required to determine the impact of AI in terms of healthcare utilisation and costs

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AMICUS AI MEDICAL IMAGING & NOVEL CANCER USER SUPPORT

KNL Netherlands comprehensive cancer organisation

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