

# Machine learning to improve Elective Operating theatre efficiency

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Problem: Theatre efficiency

Safe  
Efficient  
Effective

£7m saving

£1200 per hour



Problem: Theatre efficiency

1/3 start 30 mins late

1/3 finish 30 mins early

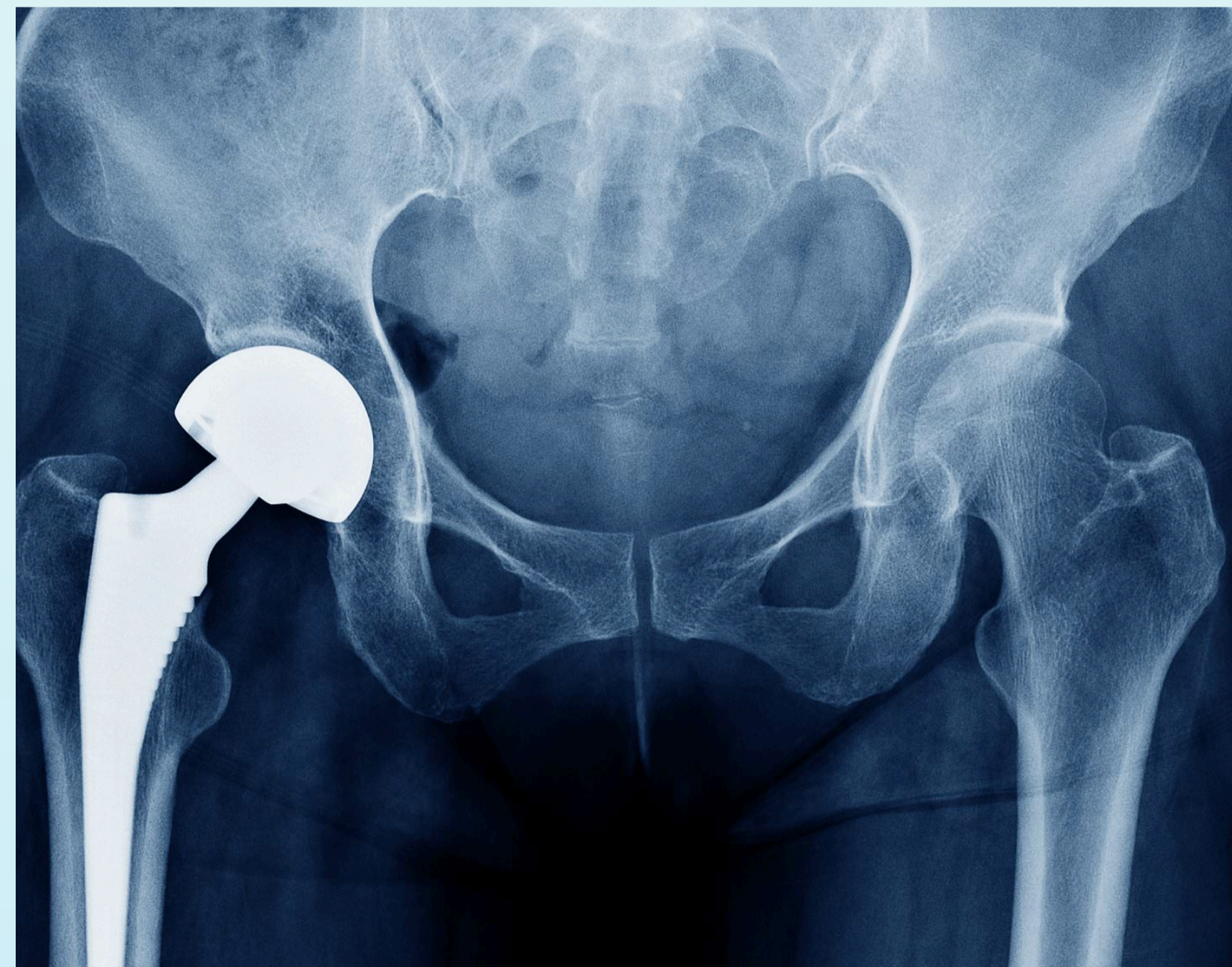
> 111,000 finish 60 mins early

291,327 more operations



## Elective hip replacements

- Nearly 100,000 performed in the NHS in 2019
- Likely to continue being funded
- Waiting list is at 7.3 million
- Average waiting times 55 weeks
- Average time for procedure 60-150 minutes



## Improve theatre efficiency

- Aim to accurately predict duration of procedure at time of listing
- Optimise theatre list to maximise theatre utilisation
- reduce early finishes and account for expected delays



## Data governance and extraction process

