NPCA
National Prostate Cancer Audit

Determinants of variation in radical local treatment for men with high-risk localised or locally advanced prostate cancer in England.

Urology Registrar & NIHR Doctoral Research Fellow

Performance Indicators

Disease presentation and treatment allocation *(sMDT level)*

1. Metastatic disease at diagnosis
2. Potential "over-treatment" of low-risk disease
3. Potential "under-treatment" of locally advanced disease

- Prevent prostate cancer death
- Assess 'fitness' for treatment
- Estimate life expectancy
- Limit over-treatment

Introduction

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- Over 47,000 men diagnosed in England and Wales (17/18).
- 41% had high-risk or locally advanced disease.
- 68% received radical treatment.
- Potential ‘under-treatment’ is 32%.
- National downward trend from 39% (14/15) to 29% (18/19)
- Varied group of patients.
- Substantial variation in management.

Aim

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- To assess the variation in the treatment of high-risk/locally advanced prostate cancer in England and explore the determinants of treatment.

Methods

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- The National Prostate Cancer Audit (NPCA) database was used to identify men diagnosed with high-risk/locally advanced prostate cancer in England & the treatments received.
- The database incorporates English Cancer Registry data, the national radiotherapy dataset and Hospital Episode Statistics.
- Hospital-level variation in radical treatment was explored visually using funnel plots.
- The intra-class correlation coefficient (ICC) was used to quantify the between-hospital variation in a random-intercept logistic regression model, adjusted for age, comorbidities, socioeconomic deprivation and ethnicity.

Results

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- 53,888 men from 128 hospitals were included, of which 35,034 (65.0%) received radical treatment.
- The likelihood of receiving radical treatment was increased in men who were younger (the strongest predictor), had fewer comorbidities, were more affluent and those of a non-Black ethnic background.
- 60.8% of Black men received radical treatment compared to 65.1% of White men (aOR 0.75 95% CI 0.66-0.86).
- 60.6% of men in the 'most deprived' SES quintile received radical treatment compared to 67.7% of men in the 'least deprived' SES quintile (aOR 0.69 95% CI 0.63-0.75).

Results

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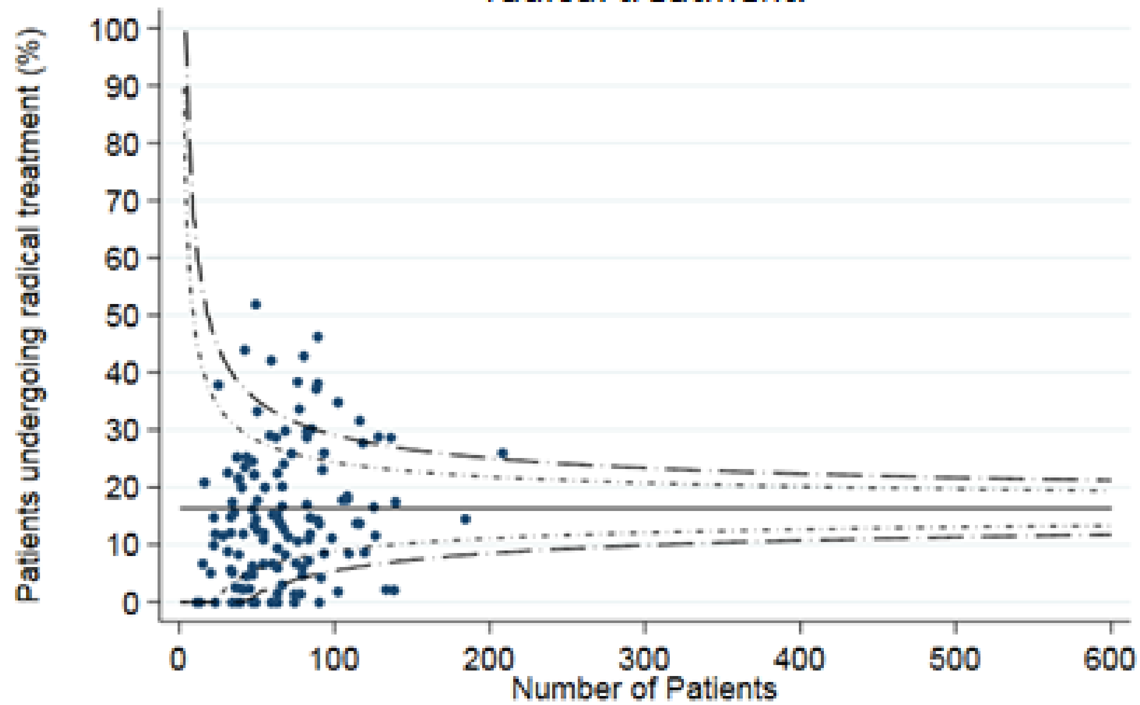
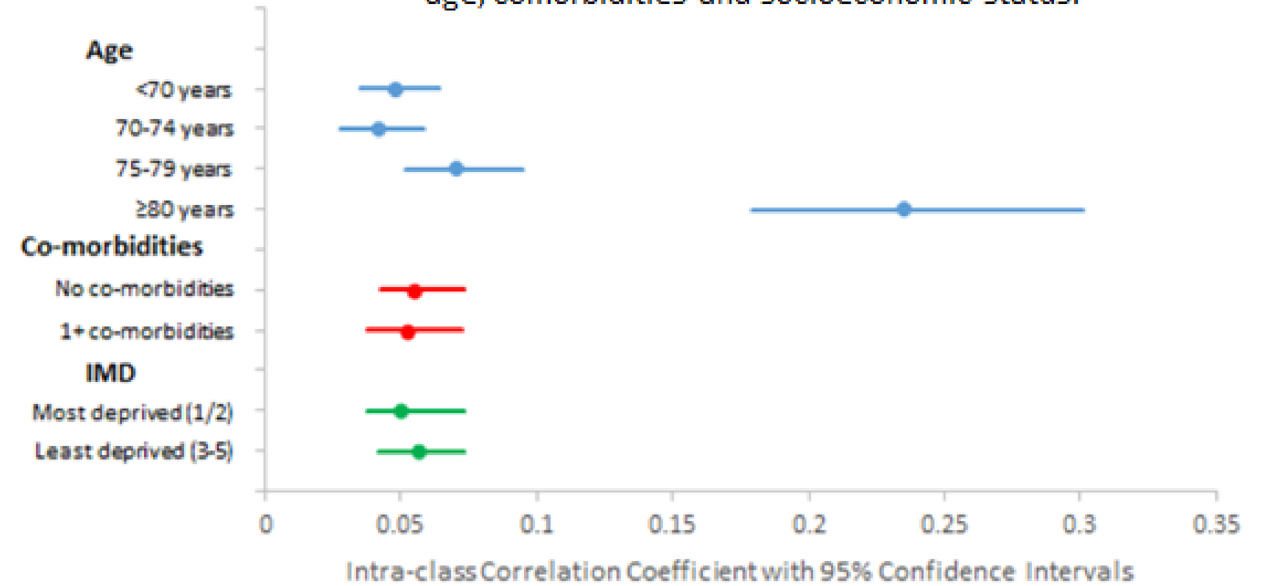
Adjusted funnel plot showing the proportion of men with high-risk/locally advanced disease who receive radical treatment.



The proportion of the total variance between hospitals according to age, comorbidities and socioeconomic status.



Discussion

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- Age is a major determinant of radical treatment.
- This effect of age cannot be fully explained by comorbidities.
- Suggesting age, rather than life expectancy, is more important in management decisions.
- Significant between-hospital variation for patients over 80.
- Reflection of the professional uncertainty.
- Co-morbidity does not impact on variation.

Discussion

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- Management according to individual health status.
- Difficulty in determining physical fitness/life expectancy.
- Structured geriatric assessments.
- Shared decision making.
- Multi-disciplinary involvement.

Discussion

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- Variation with respect to ethnicity and socioeconomic deprivation.
- New finding within the NHS.
- Previously within the US health system.
- Unclear how or why this treatment variation occurs.
- Further investigatory work ongoing.

Conclusions

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- There is a need for a detailed review of treatment patterns to reduce the risk of under-treatment related to age, ethnicity and socioeconomic deprivation.
- There is a large variation between hospitals in whether older patients receive radical treatment.
- There is a need for a detailed review of treatment patterns to reduce the risk of under-treatment related to age, ethnicity and socioeconomic deprivation.

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