

## *Executive summary*

# The diagnosis, management, treatment and costs of prostate cancer in England and Wales

Jocelyn Chamberlain FRCP, FFPHM <sup>1</sup>

Jane Melia PhD, Hon MFPHM <sup>1</sup>

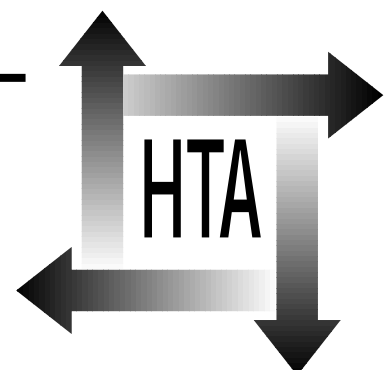
Sue Moss PhD, Hon MFPHM <sup>1</sup>

Jackie Brown PhD <sup>2</sup>

<sup>1</sup> Cancer Screening Evaluation Unit, Institute of Cancer Research, Section of Epidemiology, Sutton, Surrey

<sup>2</sup> Health Economics Research Group, Brunel University, Uxbridge, Middlesex

Health Technology Assessment  
NHS R&D HTA Programme





## Executive summary

### How the research was conducted

- The major databases and bibliographic sources were searched for relevant articles together with meetings with specialists.

### Research findings

#### Epidemiology

- The incidence of prostate cancer is increasing worldwide due to the growing elderly population and because of increased testing for prostate cancer.

#### Aetiology

- Dietary factors and hereditary may be risk factors but more research is needed.

#### Pathogenesis and natural history

- Many prostate tumours are slow growing. Histological grade is the best predictor of progression.

#### Diagnosis

- General practitioners (GPs) initially attempt to differentiate between benign prostatic hyperplasia (BPH) and cancer. The use of diagnosis tests is believed to be increasing. Patients with severe BPH or suspected cancer are referred to hospital specialists.
- Hospital diagnostic tests include prostate specific antigen (PSA), transrectal ultrasound and core-needle biopsy.
- Transurethral resection of the prostate (TURP) for the relief of BPH has developed without evaluation of its effect on increasing the diagnosis of latent cancer.

#### Treatment of localised disease

- There is a lack of good quality evidence about the relative effectiveness of the three main treatment options: radical prostatectomy, radiotherapy, and conservative management (monitoring and treatment of symptoms).
- Current trials comparing the three main methods will take many years to determine which is the most effective treatment.

#### Treatment of advanced disease

- Much more research has been conducted into the treatment of advanced disease than localised disease. Androgen deprivation (surgical or medical castration) is the standard treatment.
- Progression of disease can be slowed down by starting androgen deprivation as soon as advanced disease is diagnosed.
- The additional cost and side-effects of combined treatment (castration and anti-androgens) has yet to be shown to be cost-effective.

#### Screening

- There is no evidence about the number of deaths that could be prevented by screening asymptomatic men, and a lack of evidence about the best way to treat early disease. It is therefore not possible to estimate the cost-effectiveness of screening.
- Screening can cause additional morbidity from biopsy and treatment side-effects.
- *Ad hoc* PSA testing is believed to be increasing rapidly, leading to the diagnosis of early stage prostate cancer for which the effectiveness of treatment is not known.

#### Economic issues/burden on the health services

- Only direct costs to the health care system were considered. From the available data, prostate cancer in England and Wales costs the health service at least £45 million/year, although the true costs are likely to be more than £55 million/year.
- If 1.4% of men aged 45–84 years had one PSA diagnostic test per year, these tests alone could cost £1.2 million/year. Subsequent costs include additional diagnostic tests and unproven treatments.

#### Main recommendations

- More information about pathological TNM staging and clinical staging should be recorded.

- Opportunistic screening should be discouraged.
- PSA testing could be limited to certain specialities (e.g. urologists, clinical oncologists).
- If PSA testing becomes widespread, a national computerised information system should be established to analyse the number of PSA tests, indications tested for, and the results.
- GPs and the public should be educated about the potential disadvantages and uncertainties of PSA testing.
- Policies on core-needle biopsy procedure and criteria for performing histology of TURP are needed.
- The cost of different diagnostic procedures needs further investigation.
- For men with < 10 years life expectancy and those with a T1a Gleason grade < 4 tumour, "watchful waiting" is probably the most appropriate treatment option because of the low incidence of side-effects.
- Radical prostatectomy should only be conducted by specialist urologists and a system for auditing complications arising from this procedure should be set up.
- Recruitment to the on-going MRC trial PR06 needs to be encouraged.

### Main research suggestions

- Further basic research is required to identify prognostic disease markers.

- Further research is required to determine the effect of diet, hormone levels and exercise on the aetiology and prevention of prostate cancer.
- Priority should be given to a randomised controlled trial of PSA screening in the UK which should include assessment of possible alternative criteria for referral, quality of life measures, resource costs and evaluation of treatment.

### Overall conclusion

- The number of men requiring care for prostate cancer and the burden of the disease on all sectors of health care will increase over the next decade. The effectiveness of screening is not proven, and a national screening programme is not justified on current evidence. In addition, the effectiveness of different methods of management of localised disease is not known, so any randomised trial of screening should also address the question of treatment.

### Publications

Chamberlain J, Melia J, Moss S, Brown J. The diagnosis, management, treatment and costs of prostate cancer in England and Wales. *Health Technology Assessment* 1997; 1 (3).

*British Journal of Urology supplement (Summer 1997).*

# NHS R&D HTA Programme

The overall aim of the NHS R&D Health Technology Assessment (HTA) programme is to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and work in the NHS. Research is undertaken in those areas where the evidence will lead to the greatest benefits to patients, either through improved patient outcomes or the most efficient use of NHS resources.

The Standing Group on Health Technology advises on national priorities for health technology assessment. Six advisory panels assist the Standing Group in identifying and prioritising projects. These priorities are then considered by the HTA Commissioning Board supported by the National Coordinating Centre for HTA (NCCHTA).

This report is one of a series covering acute care, diagnostics and imaging, methodology, pharmaceuticals, population screening, and primary and community care.

A considered decision was taken to commission two similar reports in the area of prostate cancer as an experiment during the initial funding phase of the HTA programme. The aim was to explore the consistency of systematic reviews when commissioned from research teams with different backgrounds and research expertise. This report provides a strong link with health economic issues, whereas the related report [Selley S, *et al.* Diagnosis, management and screening of early localised prostate cancer. *Health Technol Assess* 1997;1(2)] has, as one of its main focuses, early localised prostate cancer. The two reports provide an excellent overview of this field and will greatly enhance the knowledge base from which future decisions in this field will benefit.

The views expressed in this publication are those of the authors and not necessarily those of the Standing Group, the Commissioning Board, the Panel members or the Department of Health.

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Assistant Editor: Jane Robertson

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Copies of this report can be obtained from:

The National Coordinating Centre for Health Technology Assessment,  
Mailpoint 728, Boldrewood,  
University of Southampton,  
Southampton, SO16 7PX, UK.  
Fax: +44 (0) 1703 595 639 Email: [hta@soton.ac.uk](mailto:hta@soton.ac.uk)  
<http://www.soton.ac.uk/~hta>

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