Original article

The cost effectiveness of a nurse-led shared-care prostate assessment clinic

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Objective: Nurse-led prostate clinics (NPCs) have proved to be a highly effective method of assessing patients with lower urinary tract symptoms (LUTS) and most urology units now run such clinics. However, it was not known whether they are cost-effective and this analysis answers that question.

Patients and Methods: During one year, a trained urology nurse assessed 1080 patients in our NPC following GP referral using a standard pro forma. Costs included those incurred for the salary of a grade D nurse at 30 min per patient, all investigations, indirect charges and overheads. This was compared to the cost of seeing all patients in clinic directly, either by a consultant, staff grade urologist or registrar. Of these 1080 patients, 350 were sent back to their GPs after NPC assessment. **Results:** The NPC cost of £44.25 per patient compared favourably with an average medical out-patient clinic cost of £50.46 per patient, yielding an actual annual saving of £6706.80. Since a third of the patients assessed in the NPC were sent directly back to primary care, saving the cost of a medical follow-up appointment, the true savings in secondary care were £17,661.00 (£50.46 × 350), giving a total annual saving of £24,367.80.

Conclusions: A nurse-led shared-care prostate clinic is a cost effective, thorough and speedy method of assessing men presenting with suspected bladder outflow obstruction. The approach used has a wider generic, cost-benefit potential for the NHS.

Key words: Nurse-led prostate clinic – Cost – Savings

In the UK, one in three men over the age of 50 years has lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia.¹ Nurse-led prostate clinics (NPCs) have proved to be a highly effective method of assessing these patients and most UK urology units now run such clinics.

We have previously shown that NPCs reduce the workload of general practitioners (GPs) and urologists whilst providing a speedy and comprehensive assessment of patients referred to a urology department with suspected

bladder outflow obstruction.² A shared-care approach between GPs and hospitals has also been adopted by the Norwegians,³ the Spanish,⁴ and the Dutch, following publication of guidelines by the Dutch General Practice College and The Netherlands College of Urologists.⁵

Despite this internationalisation, no analysis of cost benefit of a nurse-led shared-care approach has been published in the UK. The present report attempts to answer the question of cost effectiveness and quantify any savings.

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Figure 1 The scheme of our shared care clinic showing primary and secondary savings.

Patients and methods

In 1998, 1080 patients (90 patients per month) were assessed in our NPCs at Colchester, Clacton and Harwich Hospitals by a trained urology nurse following GP referral using a standard pro forma, described in detail in a previous publication.² The NPC costs comprised: (i) salary of a grade D nurse – 30 min per patient, as the nurse performed all investigations; (ii) investigations – MSU, U&E, PSA, urinary flow rate and residual urine measurement; and (iii) indirect charges – clinical support costs (billed to the GPs); and (iv) overheads – to support estates, domestics and personnel (billed to GPs).

These data were compared to the cost of seeing all new patients in a 'traditional' consultant-led hospital clinic after a direct GP referral, either by a consultant, staff grade urologist or registrar (15 min per patient), the other variables being constant. The doctors' salaries were based on 42 working weeks and administrative sessions. Assistance in

collecting the data was obtained from our Finance and Audit Department (Colchester General Hospital).

Of the 1080 NPC patients, 350 (32.4%) were referred directly back to their GPs with a protocol-based recommendation for treatment. The other 730 patients were referred to the urology out-patient clinics for a consultant, staff grade urologist or registrar appointment on a routine or urgent basis, depending on the severity of LUTS, investigation results and working diagnosis.

Results

These are summarised in Table 1 and Figure 1.

The NPC cost of £44.25 per patient compared favourably with an averaged medical out-patient clinic cost of £50.46 per patient. This yielded the 'primary saving' of £6706.80 ($1080 \times [£50.46 - £44.25]$).

Since 350 of the 1080 patients assessed in the NPC were sent directly back to primary care thus avoiding the cost of a

Table 1 Comparison of cost analyses per patient

	Consultant	Staff grade urologist	Registrar	Nurse
Salary	£14.17	£7.16	£6.44	£5.12
Consumables	£1.00	£1.00	£1.00	£1.00
Investigations	£23.38	£23.38	£23.38	£23.38
Total direct costs	£38.55	£31.54	£30.82	£29.50
20% indirect costs	£7.71	£6.31	£6.16	£5.90
30% for overheads	£11.57	£9.46	£9.25	£8.85
Total cost/patient	£57.83	£47.31	£46.23	£44.25

Average medical out-patient clinic cost per patient £50.46 versus £44.25.

'Primary saving' = £6.21 per patient.; 'Primary saving' for 1080 patients = £6706.80.

Table 2 Benefits of a nurse-led prostate clinic (modified from Booth et al.²).

Faster service
Comprehensive initial assessment
Patient satisfaction
GP satisfaction
Quicker streamlining of referrals
Better targeting of resources
Better communication/education
Development of specialist nurse practitioners
Cost effective

post-investigation medical follow-up appointment, the true savings in secondary care were clearly much higher. On our costing for a 15 min follow-up at an average medical staff and overhead cost of £50.46, this 'secondary saving' amounted to £17,661.00 (£50.46 × 350). This gave the total savings of £24,367.80 per annum.

Discussion

The NHS is faced with the principal task of providing the best healthcare at the most competitive price. Cost effectiveness is now given the same importance as many medical advances.⁶ This study confirms for the first time that a nurse-led shared-care approach is a cost-effective method of investigating men referred with LUTS in the UK.⁷ In Spain, savings amounting to 30 million pesetas/year (£113,200) have also been reported in a national study where this approach has also been adopted.⁴

Our data indicate that the 'primary saving' in a single department running an NPC is moderate. However, since 30–50% of patients assessed in shared-care clinics essentially remain in primary care^{2,8} saving the cost of a medical follow-up appointment after investigations, the true savings in secondary care are far higher. Our estimate of £24,367.80 per annum would pay for the employment of another specialist nurse. It can also be assumed that the savings on a national level in the UK, although not quantified, must be considerable and fully support the expansion of nurse-led 'shared' or primary care based initiatives in urology.

There are further undoubted, but unquantified, benefits of this protocol-based approach to both primary and secondary care. In primary care, time-consuming or inappropriate investigations are eliminated and the temptation to initiate empirical treatment prior to investigation is curtailed. In secondary care, the traditional 'consultant-investigation follow-up clinic' process is truncated (Fig. 1).

Questionnaire surveys have indicated almost unanimous support for nurse-led shared-care clinics amongst GPs and urologists.^{2,9} This approach to the management of LUTS

improves the standard of care provided to patients. By making best use of available resources, the NPCs allow hard-pressed urologists to focus greater attention on those patients whose problems require surgical expertise to resolve.⁹ The setting up of NPCs in our district has translated into a more effective use of consultant time and a total saving to our unit of almost £25,000 per annum.

Our original publication in 1996 listed the benefits of a nurse-led, protocol-based, shared-care approach;² to these we can add a proven cost benefit (Table 2).

We now believe our clinical methodology and the skills of specialist nurses in an extended role can be exploited much further, across many specialities and particularly into shared-care or primary care settings. This paper confirms that the methodology has a major potential cost benefit to the NHS.

Conclusions

A nurse-led shared-care prostate clinic is a cost-effective, thorough and speedy method of assessing patients presenting with LUTS due to suspected bladder outflow obstruction. The methodology has a generic major cost benefit potential to the NHS.

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References

1. Simpson RJ. Benign prostatic hyperplasia. *Br J Gen Pract* 1997; **47**: 235–40.
2. Booth CM, Chaudry AA, Smith K, Griffiths K. The benefits of a shared-care prostate clinic. *Br J Urol* 1996; **77**: 830–5.
3. Talseth T, Hedlund H. Benign prostatahyperplasi. Delt omsorg mellom urog og allmennlege. *Tidsskr Nor Laegteforen* 1997; **117**: 389–93.
4. Padilla Leon M, Marchal Escalona C, Caballero Alcantara J, Padilla Leon F, Lucas de Vega IM. Cuidados compartidos en HBP. Primera experiencia nacional. *Actas Urol Esp* 1998; **22**: 478–83.
5. Lycklama a Nijeholt AA. Benigne prostatahyperplasie; gedeelde zorg is halve zorg. *Ned Tijdschr Geneesk* 1998; **142**: 2556–7.
6. <<http://www.evidence-based-medicine.co.uk/ebmfiles/WhatIsClinGov.pdf>>.
7. Dasgupta P, Drudge-Coates L, Smith K, Booth CM. The cost effectiveness of a shared-care prostate clinic. *BJU Int* 1999; **83** (Suppl 4):36A.
8. Morris SB, Pogson C, Shearer RJ. Shared care for benign prostatic hyperplasia: a feasibility study. *Br J Urol* 1995; **76**: 77–80.
9. Kirby RS, Chisholm G, Chapple C, Hudd C, Swallow M, Shore D. Shared care between general practitioners and urologists in the management of benign prostatic hyperplasia: a survey of attitudes among clinicians. *J R Soc Med* 1995; **88**: 284P–8P.