Introduction of a novel, mobile, nurse-led prostate cancer education and testing service

AUTHORS

Helen Crowe
RN, BApp Sci (Adv Nurs), GradDip EpiBiostats, MNursSci(NP)
Urology Nurse Practitioner and Research Nurse
Epworth Prostate Centre, Level 2, 185 Hoddle St
Richmond, Victoria, Australia
helenrcrowe@gmail.com

Patricia Bugeja, Urology Nurse Clinician
RN, MNurs
Epworth Prostate Centre, The Royal Melbourne Hospital
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
Pat.Bugeja@mh.org.au

Dr Addie Wootten, Clinical Psychologist
BBSc(Hons), DPsych(Clin), MAPS (CClin)
Epworth Prostate Centre, The Royal Melbourne Hospital
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
addie.wootten@apcr.org.au

Nicholas Howard
RN, Urology Research Nurse
Epworth Prostate Centre
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
nick.howard@hotmail.com

A/Professor Declan Murphy
MB, Bch, BaO, FRCS (Urol)
Epworth Prostate Centre, Peter MacCallum Cancer Institute
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
Declan.Murphy@petermac.org

Ben Challacombe, Consultant Urologist
BSc (Hons), MS, FRCS (Urol)
Epworth Prostate Centre, Guys Hospital London
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
benchallacombe@doctors.org.uk

Professor Anthony Costello, Senior Urologist
MBBS, FRACS, FRCSI (Hon) MD
Epworth Prostate Centre, The Royal Melbourne Hospital
Level 2, 185 Hoddle St, Richmond, Victoria, Australia
cosurol@bigpond.net.au

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ABSTRACT
Testing for prostate cancer (PCa) remains a controversial issue with conflicting professional recommendations resulting in wide variation in general practitioner's opinions, and advice to patients. As a result some men may not receive information about their risk of developing PCa, and are therefore unable to make a decision about undergoing testing. A nurse-led program was established for delivery of information about PCa, and providing convenient testing opportunities in the workplace. The program was evaluated and found to be an efficient and well-received model for delivery of this health related initiative.

Objective
The aim of this paper is to describe the development and evaluation of a mobile, nurse-led PCa education and testing service.

Setting
PCa information and testing in work-place environment.

Primary Argument
Controversy exists regarding the risks and benefits of PCa testing. Guidelines are conflicting, with one consistent premise being that men should be provided with enough information to make an informed decision. General practitioner's uncertainty about appropriate advice, and men's reluctance to engage in health seeking behaviours, make provision of information to men regarding the risks and benefits of PCa testing a challenge. This novel nurse-led work-place service helps overcome some of the identified difficulties in men accessing information to enable them to make an informed decision regarding PCa testing and to undergo this testing.

Conclusion
The provision of work-place group education sessions and follow-up individual nurse-led consultation and testing sessions was well received and provided an opportunity for men to access information regarding PCa, and to undergo testing if appropriate, in a convenient, non-threatening environment.

INTRODUCTION

PCa remains a controversial health issue for men, with ongoing debate about the risks and benefits of PCa testing and treatment (Chapman and Barratt 2010; Myers et al 2005; Weinrich et al 2003) and guidelines offering conflicting advice. It is the most common cancer affecting Western males (Ferlay et al 2010), accounting for almost a third of male cancer diagnoses in Australia in 2007, with 3,000 being the second leading cause of male cancer deaths (AIHW 2012).

Conflicting advice about undergoing testing for PCa means that general practitioners (GPs) may be uncertain about what to recommend, and men may not receive information to allow them to make an informed decision about whether or not to be tested.

This nurse-led service offers a novel means of providing men with information about the risks and benefits of PCa testing and treatment, both in a group setting and through individual consultation, thereby allowing men to make an informed choice about whether or not to undergo testing, and then providing an opportunity for testing.

BACKGROUND

Risks and benefits of PCa testing

A limitation of PCa testing is that the blood test, prostate specific antigen (PSA), does not provide a cancer-specific diagnosis. PSA may be raised as a result of any abnormal prostate condition such as benign prostatic hyperplasia, inflammation or infection. However, an abnormal PSA result will often require further investigation if a benign cause is not apparent. A further limitation of PSA testing is that PCa may be present with a normal PSA reading (NHS Cancer Screening Programmes 2012; Baade et al 2005).

Suggested benefits of testing for PCa include the detection of any PCa before symptoms develop, at an early stage of disease, thereby permitting cure or treatment that could extend life. Risks of testing include the morbidity associated with prostate biopsy including sepsis requiring hospitalisation (0.6 – 1.4%) (Pinkhasov et al 2012; Nam et al 2010) and significant bleeding (Loeb et al 2011). Not all PCa diagnosed is clinically significant, so testing may lead to overtreatment, with the diagnosis and treatment of a cancer that would never cause any health-related problems for that individual. In addition the treatment of PCa has associated morbidity, in particular urinary incontinence and sexual dysfunction.

PCa Testing Guidelines

Most international PCa guidelines do not recommend population screening. Rather, it is recommended that men should be able to access testing if they have been fully informed of the potential harms and benefits of testing, the limitations of the test, and the implications of abnormal results (Baade et al 2005; Radosevich et al 2004). The Urological Society of Australia and New Zealand (USANZ) PSA Testing Policy (2009) does not recommend mass population-based PCa screening as public health policy, but recommends that "men interested in their prostate health in these younger age groups (<55 years) could have a single Prostate Specific Antigen (PSA) test and digital rectal examination (DRE) at, or beyond age 40, to provide an estimate of their PCa risk over the next 10 – 20 years, based on age–specific median PSA levels with the intensity of subsequent monitoring being individualised accordingly". The guidelines state that "overall there is growing evidence that PSA based testing can reduce PCa mortality and should be offered to appropriately selected patients" (Urological Society of Australasia and New Zealand 2009. The American Urological Association (AUA) Prostate-Specific Antigen Best Practice Statement 2009 Update lowered the recommended age for offering a baseline PSA test to 40 years, suggesting that because of the uncertainty that PSA testing may offer more benefit than harm patients must be well-informed before undergoing testing (American Urological

Association 2009). This recommendation for testing men at 40 years was reversed by the Early Detection of Prostate Cancer: AUA Guideline (2013) which stated that " the greatest benefit of screening appears to be in men ages 55 to 69 years". In May 2012 the United States Preventive Services Task Force recommended against screening for PCa due to the potential risk of over-diagnosis and over-treatment, concluding that the small potential benefit of testing does not outweigh the significant potential harms (U.S. Preventive Services Task Force 2012. The Royal Australian College of General Practitioners (RACGP) also recommend against screening in their Guidelines for Preventive Activities in General Practice. They advise general practitioners (GPs) not to raise the issue with every eligible man, but to wait for the patient to ask (Royal Australian College of General Practitioners 2012). The recently released Melbourne Consensus Statement on Prostate Cancer Testing (Murphy et al 2014) further supported baseline testing for men in their 40s as a predictor of those at risk of developing PCa in the future (2013). It is not surprising that confusion exists amongst GPs in view of these conflicting recommendations.

Factors influencing decisions about PCa testing

With these conflicting recommendations surrounding PCa testing and treatment there exists confusion within the general population also around whether or not to undergo testing for PCa. Uncertainty about whether or not to offer PCa testing is also common amongst GPs, with wide variability in practice patterns and advice offered to patients (Crowe et al 2013) . GPs report they refer to a range of the available clinical guidelines with the RACGP "Red Book" being the most frequently used source, but USANZ guidelines, the Cancer Council guidelines, the Royal Australian College of Pathologists guidelines also being utilised. Some GPs do not refer to any guidelines (Crowe et al 2013). Patients have concerns that some GPs are not well informed about PCa, and that they do not have enough time to discuss the issues surrounding being tested appropriately in a routine consultation. Forty-four per cent of patients in New Zealand who had undergone PCa testing were unable to recall having a discussion with their GP about the benefits and potential harms of testing (Arroll et al 2003). Similarly, half of the men attending a urology clinic in the United Kingdom (UK) for investigation of an abnormal PSA level were unaware of having this test (Hevey et al 2009). A study of veterans in the United States of America (USA) found of those patients who knew that they had had a PSA test only 47% recalled any prior discussion about the risks and benefits of testing (Federman et al 1999). The authors suggested that centres specialising in dissemination of quality information about PCa and support may address these problems. One study proposed that providing education supporting decisions regarding PCa testing, and testing opportunities within the same environment, may impact the number of men who chose to be tested (Myers et al 2005; Bretton 1994).

Involving patients in shared decision making is recommended by many authorities (Woolf and Krist 2005; Radosevich et al 2004). For patients to participate in this decision making process specific information must be made available to them, with the opportunity to have a discussion with an informed health care professional (Radosevich et al 2004). A 2008 survey conducted of men attending Australian GP practices reported a deficit in knowledge about PCa amongst men in the at-risk age group (Arnold-Reed et al 2008). A study of Irish men found a similar lack of knowledge with few men being able to list PCa risk factors (Casey et al 2012). An Australian GP survey reported that men were reluctant to ask for information, but were receptive to receiving information if it was made available to them (Arnold-Reed et al 2008). There have been few studies examining the reasons why men do not seek information about PCa and do not participate in screening (Cormier et al 2003), but Ferrante et al's (2011) study reported that men gained most of their health education from the media, or from friends or family.

Physician support and having knowledge about PCa have been identified as factors encouraging men with a family history of PCa to undergo testing (Cormier et al 2003). Patients have reported many reasons for not

undergoing screening, including a lack of time and inconvenient doctor's hours (Weinrich et al 2003) lack of ease with making appointments (McDougall et al 2004), a lack of knowledge about personal risks and procrastinating (Ferrante et al 2011). Embarrassment about the DRE was also identified as a major reason for some men to avoid being tested, whilst some men felt that the absence of any urinary symptoms meant that they were at low risk of PCa (Ferrante et al 2011). A further study also found that the fear and shame experienced by the DRE was a definite barrier to screening, but that having undergone a DRE, the majority of men reported that it was less awkward than they had expected, and they would be more likely to undergo repeat testing in the future (Naccarato et al 2011).

It is reported that men, in particular younger men, do not routinely participate in health prevention measures, including regular health checks with their GPs (Smith et al 2006). A recent study in Ireland found that men lack the knowledge to pursue health initiatives (Casey et al 2012). Similarly in the UK it was reported that men are 20% less likely to visit their GP than women (Baker 2012). From the physician's perspective, a lack of time, competing health demands, fears regarding malpractice, and patient interest have been identified as factors that influenced shared decision making about PCa testing (Davis et al 2011; Guerra et al 2007). Patient comorbidity, patients' limited education and health literacy and physician forgetfulness were potential additional barriers for doctors to discuss PCa risks and testing (Guerra et al 2007).

There is evidence of the effectiveness of using non-traditional venues for delivering men's health services including sports stadia, workplaces, pubs, clubs and men's DIY stores (Baker 2012), and many groups now use these routinely for provision of health information. The researchers believe this program is novel in that it offers workplace PCa testing as well.

Aims of the Project

The project was designed to develop and evaluate a service offering a convenient opportunity for men to be provided with information about PCa, thereby enabling them to make informed decisions about their prostate health. This pilot study was conducted to evaluate the usefulness and feasibility of this nurse-led Mobile Advice and Testing Service (MATS).

METHODS

Ethics approval for the piloting and evaluation of the MATS was obtained from Epworth Healthcare Human Research Ethics Committee. The MATS was designed to provide appropriate, unbiased, relevant information about PCa including known risk factors, and the risks and benefits of undergoing testing and treatment. After receiving this information in a group setting, and then having the opportunity for individual discussion with a specialist urology nurse, men in the appropriate age group who wished to undergo testing would be offered both PSA and DRE tests. Existing international and national guidelines for PCa testing were reviewed and from these a PCa testing protocol was developed for the MATS in conjunction with urologists attending our facility. To ensure consistency of information an education program was created including information about the prostate gland, PCa, PCa testing and treatments, and associated risks and benefits of testing and treatment. The specialist urology nurses involved in the MATS underwent supervised training in performing DRE. Each nurse completed 50 documented prostate examinations under urologist supervision.

Initially the MATS was situated in a central office location, based in a research centre located in close proximity to the CBD in Melbourne, Victoria.

The MATS was advertised in local newspapers, and at nearby workplaces. It was recognised that the service needed to be easily accessible to men to encourage attendance. To this end flexible appointment times were available, both during and after normal working hours. Men were able to self-refer to the clinic. Despite this

there were few enquiries and attendances, fewer than 20 over a three month period. It is possible that for the same reasons men do not attend a GP they were reluctant to attend the clinic-based MATS.

The researchers were invited to deliver a PCa education session to railway employees in outer Melbourne as part of their routine health education service. It is a predominantly male workplace with the main work force being labourers and tradesmen as well as some administration and clerical staff. A nurse-led PCa consultation and testing session was provided for those men who attended the education session. The nurse-led consultation sessions were scheduled approximately one week after the education session allowing the men time to have discussions with each other, family and friends, and GP, and to make a decision about whether or not to attend, and to undergo testing.

It has been the researchers experience that education sessions about men's health issues directed to men may be better received if given by a male. A male urologist was present to give the group education session. One of the employees at the workplace had undergone treatment for PCa and was willing to talk about his experiences. A meeting room was used to conduct the education session which was scheduled prior to the commencement of the workday. The information presentations from the urologist and the employee were of approximately 30 minutes duration, followed by time for questions and answers. The specialist urology nurses were in attendance and were introduced to the audience. Instructions about how to book for the follow-up consultations with the nurses were provided. These were scheduled for approximately one week later in rooms adapted for use at the workplace.

All attending the education sessions, both males and females, were asked to identify the reasons for men's reluctance to seek information about PCa and/or undergo testing. Those men who attended the individual consulting sessions provided informed consent. Demographic and previous health-related behaviour data were collected from these individuals. During these consultations there was a general discussion about PCa and the opportunity to ask for any further information or clarification. Questions about other health related issues were also received and answered as appropriate. Men in the appropriate age group were then given the option of undergoing testing, both PSA and DRE. The optional nature of this testing was made clear. A service Quality Assurance questionnaire was completed anonymously at the completion of these sessions.

Test results for those who underwent testing were reviewed with a urologist, and recommendations for future appropriate testing were made based on these. The results and recommendations were sent to the men, copied to their GP within two weeks of attending the session. Those men who did not have a GP were given a copy of the results to take to their next medical appointment. Any results that were of particular concern were notified by telephone as well as posted.

The format for the first session was repeated at additional workplaces, including a factory, a major trucking organisation depot, a public transport depot and weekend in-service and retreats for ambulance Victoria volunteers. Logistically detailed information about those attending group sessions was not able to be collected. The majority attending were males, with some females also present. The service was directed towards males, but females often influence the health behaviours of male family members and friends. This was seen as an opportunity for dissemination of information about PCa to them.

RESULTS

Between October 2009 and July 2012, 336 individuals (207 males, 115 females, 14 non-respondents) attended a MATS education session. Attendances at the sessions varied from small groups of 10-20 to larger groups in excess of 100. Following the education session, 151 of the 207 men (72.9%) returned for individual consulting sessions with a urology nurse.

Table 1: Age distribution of men attending individual MATS consultations

AGE	n = (151)	%
< 40 years	15	9.9%
40 – 49 years	62	41.9%
50 – 59 years	61	40.5%
60 – 69 years	12	7.9%
>70 years	1	0.6%

The majority of men who attended the individual consultation sessions were aged between 40 and 70 years, the recommended age group to receive information about PCa (table 1). Those younger than 40 years were not offered testing, but were provided with information about PCa and testing for them to consider when they reached the appropriate age.

Table 2: Educational qualification levels of men attending individual MATS consultations

QUALIFICATION	n = (151)	%
Did not complete high school	16	10.6%
Completed high school	27	17.9%
TAFE qualification	39	25.8%
Bachelor degree	43	28.5%
Masters degree	12	7.9%
PhD	3	1.9%
No response	11	7.3%

The educational background of men attending varied, with the majority having some academic preparation (table 2). Of the 151 men who attended the individual sessions 60 (39.8%) reported they do not regularly attend a GP, 83 (54.9%) do have regular health checks with their GP, eight (5.4%) did not respond. Of those 83 men who do see their GP regularly, approximately half (49%) had not had a discussion with their GP regarding the risks and benefits of PCa testing. Sixty-nine (51.1%) of the 135 men in the eligible age group indicated they had previously been tested for PCa, with 26 (37.7%) having had both a PSA and DRE. Thirty-three (47.8%) had a PSA, but no DRE, and 9 (13%) reported a DRE but no PSA, one (1.4%) provided no response.

Of those men who attended the individual counselling sessions, 16 were not in the appropriate age group for testing (< 40 years, or > 70 years). Of the remaining 135 men, all but one elected to undergo PCa testing, with both PSA and DRE offered. Four declined to have a DRE, and all had a PSA test. The vast majority (114 men, 85.1%) of those tested had PSA test results within the age-specific normal range and a normal DRE. They were advised that no further PCa testing was required for five years. Thirteen men (9.7%) had abnormal PSA test results and were recommended to attend their GP and have their tests repeated at a specified time ranging from 3 – 12 months. Seven men (5.2%) had both an abnormal DRE and PSA and were advised to attend a urologist for review.

To determine appropriate places to provide health related information for men, those attending the education sessions were asked where they have previously sought information regarding PCa.

Table 3: Sources of prostate cancer information previously utilised by men attending individual MATS consultations

SOURCE	n 151)	%
Family and/or friends	17	11.2%
Internet	13	8.6%
Cancer Council Australia	5	3.3%
Other media sources (TV/ newspapers)	15	9.9%
Never look	71	47.1%
More than one source	16	10.6%
No response	14	9.3%

There were no significant differences found between men from different age groups and educational levels and sources of PCa information utilised.

Those who attended the education session, both males and females, were asked to indicate potential reasons why men do not seek information about PCa and/or undergo testing. More than one reason could be selected.

Table 4: Possible reasons for not seeking prostate cancer information identified by those attending MATS education sessions

Reason	Total responses n = 320		Male responses n = 207		Female responses n = 113	
		Ranking		Ranking		Ranking
Afraid and/or embarrassed	231	1	139	1	92	1
Don't want to have a DRE	177	2	108	2	69	2
Don't want to know about it	114	3	64	=5	50	3
Scared to know the result	111	4	67	4	44	4
Don't like going to the doctor	91	5	74	3	17	7
Don't know they may have to	84	6	62	7	22	5
Can't be bothered	82	7	64	=5	18	6

Other reasons recorded included "there is a lack of information about PCa", "belief that the tests are not reliable and the cure is worse than the disease", "don't have time" and "a fear of the treatment for PCa". Those who attended both the education and the individual counselling sessions were asked to indicate their satisfaction with the MATS. Reponses indicated satisfaction with the service (table 5).

Table 5: Satisfaction with MATS education sessions and consultations

n = 151	Highly Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied
Education Session	113 (74.8%)	30 (19.9%)	2 (1.3%)	0
Individual Consultations	105 (69.5%)	38 (25.2%)	0	0
No Response	7 (5.3%)	{Nagler, 2005 #152}		

DISCUSSION

Provision of information about PCa to enable men to make an informed choice about whether or not to undergo testing is universally recommended. However, meeting this requirement may not always be easily met in a busy GP practice. In addition, the guidelines available for GPs regarding recommendations for PCa testing and treatment are conflicting. As a result, it is not surprising that men attending GPs may undergo testing without any prior discussion, or are never made aware that they may be at an appropriate age for testing if they do not specifically ask for information. In addition it is recognised that many men do not regularly attend a GP to undergo health checks so are not in a position to receive information and advice about the pros and cons of PCa testing.

Providing PCa information in the workplace is not novel. Many workplaces provide regular health-related information sessions. The scheduled individual nurse-led consulting and testing sessions included in the MATS do offer a novel workplace experience. The testing is offered to men after they have received information about PCa and the risks and benefits of testing and treatment. This obviates the need for men to attend their GP for this service, provides the opportunity for men who do not attend a GP or have not had a discussion with their GP to receive the necessary information.

The educational qualifications of those attending (table 2) highlight the diversity of educational standards in the workplace settings attended. This emphasises the need to ensure that any educational material is pitched at a level able to be understood by those attending.

It is of interest that that approx. 50% of the men attending the MATS had never previously sought any information about PCa despite it being the most common cancer affecting Western males (Ferlay et al 2010). Family and friends proved to be the most commonly used source of health related information identified by

the men attending the MATS. It was of interest that there were no differences identified between age groups and educational levels and information sources utilised. This may be as a result of the small numbers in this pilot study, but it does suggest that the commonly used existing means of providing information to men may not be effective for raising awareness of health related issues. Nurses need to be aware of this, and of the lack of health-seeking behaviour amongst men, and use all available opportunities and venues to provide them with relevant health-related information.

Fear and embarrassment, and not wanting to have a DRE were the most common reasons identified by both males and females for men being reluctant to seek information about PCa and/or undergoing testing. This supports Nagler's (2005) finding of the DRE being a barrier to men undergoing testing. Not liking to go to the doctor was also rated highly by the males responding as being a reason for not seeking information, whereas the females identified this as the least likely reason. Offering this information in a non-clinical setting goes some way to overcoming this barrier.

Almost three quarters (72.9%) of those attending the education sessions returned for an individual consultation, indicating the acceptance of this staggered process. This offered the researchers some control over the consulting workload in terms of scheduling appointments at appropriate time intervals, and having sufficient nursing attendance. It also allowed the individuals time to seek more information and advice if they felt the need, and to make a considered decision about whether or not they wanted to undergo testing. The convenience of having these sessions in the workplace also proved popular. Provision of this information and testing opportunity in a group setting in the workplace may also overcome some of the identified reasons for why men do not undergo PCa testing.

Typical comments offered about the MATS were "Friendly, competent staff", "Professional and efficient", "Very helpful and understanding", "Great communication and knowledge", "Very informative, easy access, relaxed atmosphere", "Staff very friendly and comforting". These comments were reflective of the overall, and further demonstrate the acceptability of providing a health-related service such as MATS in a non-clinical environment. Only one respondent recorded that he would have liked more information than was provided.

CONCLUSION

The pilot study of the MATS program found that the workplace setting provides a convenient and well-received environment for men to receive health-related information. The initial group education session about PCa, known risk factors, and the risks and benefits of testing, was an efficient means of providing information to a large number of men, with the delayed scheduled individual consultations allowed individuals to make an informed decision about whether or not to undergo testing. They had privacy and time to make this decision, thus meeting the requirements of international guidelines. We believe the MATS offers a model of nurse-led health-related information delivery and testing for men that overcomes some of the traditional barriers which may be suitable for nurses offering other educational health programs for men.

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