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What do general practitioners think and do about prostate cancer screening in Australia?

Background

Men seek advice from their general practitioner (GP) on the merits of screening for prostate cancer. This study aimed to examine how the knowledge and clinical experience of GPs influenced their position on prostate cancer screening.

Methods

A total of 13 focus groups were set up with 77 GPs. Focus group discussions were audio-taped and transcribed verbatim. Transcripts were analysed by two investigators via thematic analysis.

Results

GPs were evenly divided between those who proactively screen men for prostate cancer and those who do so only at the patient's request. GPs had limited knowledge of recently published evidence from trials on prostate cancer screening.

Discussion

Effective methods of increasing GP knowledge about evidence-based recommendations and potentially changing clinical behaviour are required in order to promote evidencebased decision-making by GPs and their patients.

Keywords

prostate cancer; screening; qualitative research; general practitioner

Prostate cancer is the most commonly diagnosed cancer in Australian men and the second leading cause of cancer death. 1 Until recently, there was insufficient evidence from high-quality randomised controlled trials (RCTs) to support or oppose screening for prostate cancer.² Few symptom-free men will actively seek to initiate and engage in discussions about their reproductive health with their general practitioner (GP).³⁻⁵ Very few men understand the benefits and risks associated with being screened for prostate cancer.⁶ Whilst a majority of men would like to be screened, many lack the knowledge required to make a truly informed choice.⁵ A study of Western Australian men identified that most of the study participants were being screened for prostate cancer with minimal pre-test counselling or patient information about the benefits and limitations of screening, and were not taking an active or informed role in making this decision.⁷

There is limited research exploring Australian GPs' knowledge and clinical behaviour with respect to screening for prostate cancer. Studies in Europe and New Zealand have reported that family physicians are performing prostate-specific antigen (PSA) tests as a screening tool, either as part of their routine examination or at the specific request of the patient.8-10 In Australia, several state-based studies have explored GPs' screening behaviour. 11-13 A study conducted in New South Wales (NSW) in 1999 identified that 90% of GPs would screen asymptomatic men for prostate cancer for fear of medico-legal ramifications. 11 This attitude and behavioural intention for prostate cancer screening was consistent among GPs, despite their awareness

of evidence-based recommendations in Australia that question the benefit of prostate cancer screening. These results are further supported by a similar study, which identified that up to two-thirds of GP survey respondents ordered a PSA test as a 'screening' test for that same reason.¹³ Conversely, smaller state-based studies identified that few GPs were clear about the current guidelines on prostate cancer screening, which promoted a conservative approach to screening.12

Two large RCTs investigating the merits of screening for prostate cancer were published in 2010, with updates to the data in 2012, providing conflicting recommendations on the merits of screening for prostate cancer. 14-17 The evidence base on the merits of screening for prostate cancer has changed significantly over the last seven years, from a conservative stance of no evidence to support or refute prostate cancer screening, to a conclusion that screening does not significantly reduce prostate cancer-specific mortality.18

The aim of this study was to examine GPs' knowledge and clinical behaviour about screening for prostate cancer, given the changes in the evidence base over the years.

Methods

Participant selection

Practicing GPs were recruited by email through purposive sampling techniques that included target advertising across the various Divisions of General Practice (DGP) in the state of Victoria (Australia). 19,20 Recruited GPs were allocated to a focus group according to their practice setting (i.e. metropolitan or rural). Each GP was given a verbal explanation and explanatory statement before attending a focus group. GPs were required to provide written consent before

participating in the focus group. A total of 77 GPs participated in this study. All GPs were offered an honorarium to cover the costs associated with their participation. This study was approved by the Monash University Standing Committee on Ethics in Research Involving Humans (reference number: 2008000122-CF08/0316).

Setting

Each individual focus group was homogeneous with respect to practice setting (i.e. all rural or metropolitan GPs). A total of seven metropolitan and six rural focus groups were formed. All focus group discussions were held at the nearest DGP for the respective GPs.

Procedure

An experienced qualitative researcher (KM) facilitated all focus groups; meetings were 60-90 minutes in duration. A semi-structured interview schedule was developed from a review of the literature before the commencement of focus groups. The use of a semi-structured interview schedule ensured that all discussion points were raised during the focus group meetings. Each focus group discussion was audio taped and a research assistant also took field notes during the discussions. Focus group discussions were conducted until a point of theoretical saturation, at which no novel discussion points were generated. 19-21

Analysis

Each audio tape was transcribed verbatim by an independent scribe. The de-identified transcripts were then analysed by two investigators (DI and KM) independently, using the principles of thematic analysis. 19,21 The two investigators discussed common themes emanating from their separate analysis before an iteration of the data was analysed and final themes identified and agreed on by all investigators.²² Thematic coding of the data was assisted with the use of NVivo software.23

Results

The demographic details of study participants are shown in Table 1. Themes identified from the focus groups are discussed below. No differences in themes were recorded between the rural and metropolitan GPs.

Screening and clinical practice

GPs were evenly divided into those who were proactive and reactive screeners of prostate cancer - both groups borrowed aspects from the evidence-based medicine paradigm of integrating clinical expertise with evidence and patient values.

'So the impression I get is with prostate cancer screening it's just so grey and fine line. There are basically more or less two schools of thought where some people are a bit more proactive and others are a bit more resistant. And in the end there's really no right or wrong. And in the end it's satisfying both the doctors and the patients' conscience, more or less. And both sets of doctors are doing a service, and also sometimes a disservice to patients, depending on the different individual circumstances.' (GP J3)

Proactive screeners

GPs who were proactive screeners routinely screened all male patients over the age of 50 years, or 45 if there was a family history of cancer. This approach was performed either as part of an annual health check or whilst doing other routine blood tests (to which the PSA test was included).

'I offer the PSA as a package deal, as, you know, we check your sugar, your cholesterol, your vitamins. So the needle is already in

the arm, you know, it is not going to hurt any extra.' (GP I7)

The main factor motivating behaviour with these GPs was the overwhelming belief that screening is beneficial and that the GPs themselves had witnessed the positive effects of detecting prostate cancer at an early stage amongst their patients. Another motivating factor for this group of GPs was the fear of missing a cancer in a patient at an early, potentially treatable, stage. Some GPs talked in terms of having an obligation to their patients to screen them, whilst others believed they would not be a 'good doctor' if a patient died because the GP had not screened the patient for prostate cancer.

Reactive screeners

GPs classified as reactive screeners took the position not to offer screening for prostate cancer to all patients. Rather, these GPs offered to screen only at the request of the patient. The only exception to this stance was if there was a known family history of prostate cancer. Few of these GPs would refuse to do a test on a patient who requested it, even if they believed the test was unnecessary. For the majority, the attitude was that if the patient was informed of the issues surrounding screening and wanted to be tested, then it was their right to be tested.

'I think if you've discussed the pros and cons and they accept that then ... it gets down to

Table 1. Demographic details of focus group participants		
Characteristic	Metropolitan (n = 39)	Rural (n = 38)
Gender		
Female	13	13
Male	26	25
Age (mean ± SD)		
Female	43.1 (13.4)	45.1 (8.0)
Male	51.2 (12.1)	47.8 (10.9)
Overall	47.9 (13.1)	47.0 (10.1)
Practice type		
Solo	15	2
Group	24	36
Years as GP (mean ± SD)		
Female	14.5 (13.4)	13.5 (11.1)
Male	22.4 (10.6)	17.5 (12.1)
Overall	19.3 (12.2)	16.8 (11.8)

that patient rights business and I think it's their right to still have the test done if they so desire. But you've got to be sure you've discussed the issues with them and they do understand.'(GP L9)

Implications of screening

GPs debated that the decision to screen for prostate cancer was based on more than just performing a digital rectal examination (DRE) or PSA test, as both were inadequate diagnostic tests for prostate cancer. It was suggested that an abnormal test would lead to further invasive investigations to confirm or exclude cancer. Such investigations carried their own risks and might unnecessarily decrease a patient's quality of life. These GPs discussed the possibility of missing a cancer in a patient by adopting a 'reactive' approach to screening. Some of the GPs believed they were justified in taking this stance as this was based on the current evidence and recommendations. Conversely, others believed that if such an event occurred it might have an impact on future screening behaviour.

'I mean that's a difficult situation for you as the doctor when you don't screen and they turn up and they die of something that you could have screened for but you didn't because you used guidelines. And you know, is that going to impair your future decision-making in the next man? It's a really difficult one because it leaves a very strong impression on you as a practitioner.' (GP C3)

Both proactive and reactive screeners were concerned about the legal implications about screening for prostate cancer. Proactive screeners were concerned about the possibility of overdiagnosis in patients. Conversely, reactive screeners were concerned about the prospect of a patient being diagnosed with a latent cancer at a later date and suing for not having an opportunity to detect the disease at an early, treatable stage.

Impact of evidence on practice

Knowledge of current evidence

The GPs' knowledge of the updated Cochrane systematic review on screening for prostate cancer, along with evidence from the two large RCTs published from studies in Europe and the

USA, was limited. Many mentioned that they were vaguely aware that research was being undertaken, but few could provide any details about the studies. Only two GPs were aware of the two studies in Europe and the USA.

'I don't know the full details of them but I just know that there are two large randomised controlled trials being conducted. One's in the USA, which apparently has a mix of Caucasian and African American men in the study, and the other one's in Europe. I don't know the sample size, but they're, big, big studies...' (GP A1)

Changing existing clinical behaviours is difficult

GPs were hopeful that the new evidence would provide a consensus on the issue of screening, but were unsure whether the results would change their behaviour in practice. GPs commented that their current beliefs and practices would dictate their stance on screening. Approximately half of the GPs who were reactive screeners stated that they would follow recommendations to screen if the evidence indicated that screening is beneficial.

Conversely, several GPs who were proactive screeners indicated that they would not adhere to recommendations against screening should the evidence indicate limited or no benefit of screening. These GPs preferred to rely on their past experience of dealing with prostate cancer screening. The 'evidence' for their behaviour would be the beneficial results they believed they had seen amongst their patients rather than any evidence provided by the RCTs.

'If they came up with the result that the PSA ... has no benefit at all - I guess we, most of the GPs here would probably say, well I've had the personal experience to find that a patient with a rising PSA ended up having cancer. So we'd have to say, well from my own personal experience it was a useful test to do. So they'd have to have pretty compelling evidence to show us that we shouldn't be doing PSA at all.' (GP B3)

GPs noted that the only driver to changing existing behaviours would be strong evidence that screening for prostate cancer was significantly harmful. Some GPs also noted that fear of litigation would also be a driver, even with

GPs that placed greater emphasis on clinical experience over evidence.

Discussion

GP knowledge about the most current evidence on the merits of screening for prostate cancer may not always be current, yet their knowledge regarding the limitations associated with using the DRE and PSA test as screening tests is correct. Despite their awareness of the limitations associated with the DRE and PSA test, many will continue to screen men with these tests on the basis of either the fear of litigation or past clinical experience that has been positive (i.e. identification of an early stage tumour). The results from our study support a cross-sectional survey of Danish GPs, which concluded that PSA testing was neither standardised nor compliant with national and international recommendations and clinical guidelines on prostate cancer screening.²⁴ Our findings also support evidence from previous studies suggesting that the general practice community is evenly split regarding the merits of prostate cancer screening, with legal implications being a driver for screening. 11-13

Evidence-based practice relies on the integration of evidence with clinical expertise and patient values.²⁵ Recommendations from a variety of professional Australasian organisations vary on their stance with respect to the merits of prostate cancer screening (Table 2). Despite the disparity in their recommendations, all promote an informed and shared approach to decision-making regarding screening with patients, a view endorsed by the most recent Cochrane systematic review. 18 Promoting informed decision-making is a valid option when conflicting evidence on a medical issue is apparent.

Decision aids are evidence-based tools designed to assist patients in making an informed choice when presented with a variety of options (www.prostate.org.au/articleLive/attachments/1/ GP%20Show%20Card%20041007.pdf).^{26,27} Empirical findings demonstrate that their use results in a significant increase in patient knowledge on the medical topic and decrease in decisional uncertainty.²⁷ Use of decision aids can create the 'informed' patient, yet evidence would suggest that this approach is not pragmatically feasible because of restricted practitioner time, accessibility and/or skill in utilising decision aids

Table 2. Recommendations for prostate cancer screening		
Organisation	Recommendation	
Cochrane systematic review ¹⁸	'Screening does not significantly decrease prostate cancer-specific mortality and is associated with a high degree of over-diagnosis, treatment- and screening-related harms.'	
Prostate Cancer Foundation of Australia ³⁹	'men over the age 50 years, or 40 with a family history of prostate cancer, should talk to their doctor about testing for prostate cancer using the PSA test and DRE as part of their annual health check-up. Men should make an individual informed decision about testing based on the latest available evidence on the benefits and potential harms of testing and subsequent treatment for prostate cancer.'	
Royal Australian College of General Practitioners (RACGP) ⁴⁰	'Screening is not recommended unless the patient specifically requests it and he is fully counselled on the pros and cons of screening.'	
Royal College of Pathologists of Australasia (RCPA) ⁴¹	"underlying the testing decisions for each patient must be a robust informed consent process."	
Urological Society of Australia and New Zealand (USANZ) ⁴²	'PSA-based testing and subsequent treatment, where appropriate, has been shown to reduce prostate cancer mortality in large randomised studies and therefore should be offered to men after informing them of the risks and benefits of such testing.'	

during the clinical consultation.²⁸⁻³¹

Simply publishing research evidence does not ensure that it will reach GPs and inform their management of patients.³² A variety of educational interventions have been used to promote the transfer of knowledge from the 'bench to the bedside'. Traditional continuing medical education (CME) meetings promote improvement in professional practice through the use of interactive workshops, whilst didactic lectures promote little improvement.33 Audit and feedback interventions provide small but negligible improvement in clinical performance.³⁴ Educational outreach visits (commonly used by universities as academic detailing, and the pharmaceutical industry as education visits) provide small, but potentially clinically important changes in clinician 'prescribing'.35 Lack of time is the common barrier preventing greater GP uptake of these educational interventions. Additionally, none of these educational interventions directly assist in promoting shared decision making, which is central to prostate cancer screening.

A novel approach, currently in its infancy, is the use of practice nurses as facilitators for

providing and explaining (where necessary) evidence from RCTs to patients and assisting with decision-making.36 The use of trained counsellors to 'coach' women in discussions about breast cancer has been in effect for 15 years, and provides women with an opportunity to make a truly informed decision.³⁷ Adopting a similar approach with practice nurses in Australia has the potential to enhance men's knowledge and ability to make an informed choice with their GP about the merits of prostate cancer screening.36,38

This study offers novel qualitative insights into the knowledge and clinical behaviours of GPs about prostate cancer screening. GPs were recruited from both metropolitan and rural sites across Victoria; however, this sampling frame may not reflect similar GP knowledge or clinical behaviour across other Australian states. A purposive sampling technique, which requested that GPs volunteer for participation, was adopted for this study. This approach has the potential to introduce the possibility of selection bias as volunteers may have a strong disposition either for or against screening, which may not reflect the wider community of GPs.

Conclusions

GPs have a good understanding of the benefits and limitation of current screening tools for prostate cancer, despite not necessarily being aware of the current evidence and recommendations on screening for prostate cancer. Translation of research evidence into primary practice is slow. This can limit the ability of GPs to be 'evidence-based' in their decision making, particularly when prior evidence on the given topic was conflicting. Further research is required to identify novel and effective methods of educating GPs, translating research findings into practice, and truly promoting evidencebased decision-making by GPs and their patients. Decision aids can assist GPs when counselling men about the benefits and limitations of screening for prostate cancer.

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References

- Australian Institute of Health and Welfare & Australasian Association of Cancer Registries, 2012. Cancer in Australia: an overview, 2012. Cancer series no.74. Cat. no. CAN 70. Canberra: AIHW
- Ilic D, O'Connor D, Green S, Wilt T. Screening for prostate cancer: an updated Cochrane systematic review. BJU Int 2011;107:882-91.
- Rai T, Clements A, Bukach C, Shine B, Austoker J, Watson E. What influences men's decision to have a prostate-specific antigen test? A qualitative study. Fam Pract 2007;24:365-71.
- Pinnock C, O'Brien B, Marshall V. Older men's concerns about their urological helath: a qualitative study. Aust N Z J Public Health 1998;22:368-73.
- Ilic D, Risbridger G, Green S. The informed man: attitudes and information needs on prostate cancer screening. J Mens Health Gend 2005;2:414-20.
- O'Dell K, Volk R, Cass A, Spann S. Screening for prostate cancer with the prostate-specific antigen test:

- are patients making informed decisions? J Fam Pract 1999;48:682-28.
- Slevin T, Donnelly N, Clarkson J, English D, Ward J. Prostate cancer testing: behaviour, motivation and attitudes among Western Australian men. Med J Aust 1999:171:185-88.
- Bunting P. Has there been a change in practice of screening for prostate cancer with prostate-specific antigen in Ontario? Clin Biochem 2004;37:898-903.
- Durham J, Low M, McLeod D. Screening for prostate cancer: a survey of New Zealand general practitioners. N Z Med J 2003:116:U476.
- 10. Haggerty J, Tudiver F, Brown J, Herbert C, Ciampi A. Guibert R. Patients' anxiety and expectations: how they influence family physicians' decisions to order cancer screening tests. Can Fam Physician 2005:51:1658-59.
- 11. Girgis S, Ward J, Thomson C. General practitioners' perceptions of medicolegal risk. Using case scenarios to assess the potential impact of prostate cancer screening guidelines. Med J Aust 1999;171:362-66.
- Tse J, Liaw S. RACGP training registrars' perceptions and practice of prostate cancer screening. Aust Fam Physician 2004;33:188-90.
- 13. Ward J, Young J, Sladden M. Australian general practitioners' views and use of tests to detect early prostate cancer. Aust N Z J Public Health 1998;22:374-80.
- 14. Schroder F, Hugosson J, Roobol M, et al. Screening and prostate-cancer mortality in a randomized European study. NEJM 2009;360:1320-28.
- Andriole G, Grubb R, Buys S, et al. Mortality results from a randomized prostate-cancer screening trial. NEJM 2009:360:1310-19.
- Schroder F, Hugosson J, Roobol M, et al. Prostatecancer mortality at 11 years of follow-up. NEJM 2012:366:981-90.
- 17. Andriole G, Crawford E, Grubb R, et al. Prostate cancer screening in the randomized Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial: mortality results after 13 years of followup. J Natl Cancer Inst 2012;104:125-32.
- Ilic D, Neuberger M, Djulbegovic M, Dahm P. Screening for prostate cancer, Cochrane Database Syst Rev 2013; Issue 1: Art. No.: CD004720. DOI: 004710.001002/14651858.CD14004720. pub14651853.
- Rice P, Ezzy D. Qualitative Research Methods. South Melbourne: Oxford University Press; 1999.
- Silverman D. Qualitative Research: Theory, method and practices, London: SAGE Publications: 2004.
- 21. Patton M. Qualitative Research and Evaluation Methods. Thousand Oaks, California: SAGE Publications: 2002.
- 22. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3:77-101.
- NVivo qualitative data analysis software [computer program]. Version 8: QSR International Pty Ltd; 2010.
- Jonler M, Eddy B, Poulsen J. Prostate-specific antigen testing in general practice: A survey among 325 practitioners in Denmark. Scand J Urol Nephrol 2005;39:214-18.
- Sackett D, Straus S, Richardson W, Rosenberg W, Haynes R. Evidence-based medicine. Edinburgh: Churchill Livingstone; 2000.
- 26. Prostate Cancer Foundation of Australia. GP show card. Available at: www.prostate.org.au/articleLive/ attachments/1/GP%20Show%20Card%20041007. pdf [Accessed 6 September 2013].

- 27. Stacev D. Bennett C. Barry M. et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews, 2011:Issue 10:Art. No.: CD001431. DOI: 001410.001002/14651858.CD14001431. pub14651853.
- Purvis Cooper C. Merritt T. Ross L. John L. Jorgensen C. To screen or not to screen, when clinical guidelines disagree: primary care physicians' use of the PSA test. Prev Med 2004:38:182-91.
- 29. Young J, Ward J. Evidence-based medicine in general practice: beliefs and barriers among Australian GPs. J Eval Clin Pract 2001;7:201-10.
- O'Connor A, Wennberg J, Legare F, et al. Toward the 'tipping point': decision aids and informed patient choice. Health Affairs 2007;26:716-25.
- Short D, Frischer M, Bashford J. Barriers to the adoption of computerised decision support systems in general practice consultations: a qualitative study of GPs' perspectives. Int J Med Inform 2004;4:357-62.
- Glasziou P. Havnes B. The paths from research to improved health outcomes. Evid Based Nurs 2005;8:36-38.
- Forsetlund L. Biørndal A. Rashidian A. et al. Continuing education meetings and workshops: effects on professional practice and health care outcomes. Cochrane Database Syst Rev 2009:Issue 2:Art. No.: CD003030. DOI: 003010.001002/14651858.CD14003030. pub14651852.
- 34. Ivers N, Jamtvedt G, Flottorp S, et al. Audit and feedback: effects on professional practice and healthcare outcomes. ibid. 2012;Issue 6:Art. No.: CD000259. DOI: 000210.001002/14651858.CD14000259. pub14651853.
- O'Brien M, Rogers S, Jamtvedt G, et al. Educational outreach visits: effects on professional practice and health care outcomes. ibid. 2007; Issue 4: Art. No.: CD000409. DOI: 000410.001002/14651858. CD14000409.pub14651852.
- Myers R, Daskalakis C, Kunkel E, et al. Mediated decision support in prostate cancer screening: A randomized controlled trial of decision counseling. Patient Educ Couns 2011;83:240-46.
- 37. Denman J, Bender R, Paradice W. It's time to depolarise the unhelpful PSA-testing debate and put into practice lessons from the two major international screening trials. Med J Aust 2010;192:393-96.
- O'Connor A, Stacey D, Legare F. Coaching to support patients in making decisions. BMJ 2008;336:228-29.
- Prostate Cancer Foundation of Australia. PCFA policy on testing asymptomatic men for prostate cancer. Available at www.prostate.org.au/ articleLive/attachments/1/PCFA_Policy_on_Testing_ Asymptomatic_Men_for_Prostate_Cancer.pdf [Accessed 6 September 2013].
- Guidelines for preventive activities in general practice, 8th edn. East Melbourne: Royal Australian College of General Practitioners; 2012.
- 41. Royal College of Pathologists of Australasia. RCPA PSA statement. Available at www.rcpa.edu.au// static/File/Asset%20library/public%20documents/ Policy%20Manual/Position%20Statements/PSA%20 Statement.pdf [Accessed 6 September 2013].
- Urological Soceity of Australia and New Zealand. USANZ PSA testing policy. Available at www.usanz. org.au/uploads/29168/ufiles/USANZ_PSA_Testing Policy.pdf [Accessed 6 September 2013]

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