"The news is [not] all good": misrepresentations and inaccuracies in Australian news media reports on prostate cancer screening

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ABSTRACT

Objective: To list and critically review recent inaccurate statements made by advocates of prostate cancer screening in Australian news media.

Design: Accuracy audit of all news on prostate cancer broadcast on Sydney footprint free-to-air television stations between 2 May 2005 and 18 December 2006 (42 items), and published in print media from 6 February 2003 to 31 December 2006 in Australian capital cities (388 items). These contained 436 direct or attributed statements.

Results: Of the 436 statements analysed, 44 (10%) were factually inaccurate or made claims not supported by the scientific literature or most cancer control agencies. Misleading statements about prostate screening and its sequelae were found in five categories: mortality from prostate cancer; expert agency support for screening; the efficacy of screening in preventing death from prostate cancer and the importance of early detection; the accuracy of the prostate-specific antigen test; and prevalence and severity of adverse effects from treatment.

Conclusions: Despite near universal lack of support for prostate cancer screening of asymptomatic men by leading international and Australian cancer control agencies, Australians are exposed to an unbalanced stream of encouragement to seek testing. This coverage includes inaccurate information which ignores scientific evidence and the general lack of expert agency support.

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In 2005, the Australian Government reimbursed the cost of more than 1.2 million prostate-specific antigen (PSA) tests, with about 58% most likely being for screening and case finding. This widespread screening is occurring in the absence of evidence supporting screening as a way of reducing death from prostate cancer,[1] and with near universal lack of support for PSA screening by leading international[2-4] and Australian[5,6] health care assessment and cancer control agencies. The American Cancer Society is the only major national cancer control agency advocating prostate cancer screening.[7]

Recent analysis of news coverage of prostate cancer demonstrated that Australian men are exposed to unbalanced and often non-evidence-based appeals to seek PSA testing.[8] In the process of that research, numerous statements were found that were more than simply rhetorical, being factually incorrect. These were never subsequently corrected in the media in which they appeared. This article examines instances of those statements.

METHODS

We recorded all health and medical news broadcasts on five free-to-air Sydney footprint television stations between 2 May 2005 and 18 December 2006.[9] The Factiva database was also searched for all prostate coverage in Australian capital city newspapers from 6 February 2003 to 31 December 2006. All items mentioning prostate cancer were extracted and statements on prostate cancer and cancer screening were transcribed. Statements were reviewed for misleading and incorrect content in the following areas:

- prevalence of or mortality from prostate cancer;
- expert group support for prostate cancer screening;
- accuracy of the PSA test;
- efficacy of screening in preventing death from prostate cancer, and the importance of early detection; and
- prevalence and severity of adverse effects from prostate cancer treatment.

We judged inaccurate statements as being those which were demonstrably wrong (such as claims that prostate cancer is the leading cause of cancer death in men). Misleading statements were those that omitted information which would allow audiences to understand that a statement is controversial or widely disputed (eg, the contention that men should seek annual PSA testing from 50 years of age).

RESULTS

We located 388 newspaper and 42 television items on prostate cancer, and these contained 436 direct or attributed statements (101 television, 335 print). Of this total, 44 statements (10%) (31 print media, 13 television) dealing with prostate cancer were inaccurate or misleading. The remainder were a mixture of ideological and rhetorical statements (eg, about women having "their" cancers and men having prostate cancer) and many correct statements about (for example) how prostate cancer is the most commonly diagnosed cancer in men. Eighteen illustrative examples of false or misleading statements from newspaper and television reports are listed below, with comments.

Prevalence and severity of prostate cancer

> *. . . prostate cancer, which kills more men in this country than any other form of the disease.* [TV journalist]
>
> *Prostate cancer is . . . the biggest cause of cancer death in males.* [urologist]
>
> *. . . treat men for their commonest lethal cancer.* [urologist]
>
> *Every man at some point in his life will have a problem with his prostate and nearly 10% face serious complications.* [TV journalist]

In 2003, 4733 male deaths were attributable to lung cancer and 2761 deaths to prostate cancer.[10] In the context of an item on prostate cancer, the statement that every man will at some stage have a prostate "problem" may have reasonably been taken to mean that every man will have a prostate *cancer* problem at some stage, rather than (for example) benign prostatic hyperplasia.

Claimed expert support for screening

> *. . . the Urological Society of Australia recommends PSA testing for men 50–70 . . .* [newspaper journalist]

The government says some cancer rates are likely to continue to rise with an ageing population, so there's even more reason to encourage people to get tested early. [TV journalist]

The Urological Society of Australia and New Zealand's policy states that "Population screening of asymptomatic men is not recommended".[11] The second media comment above implies a conflation of the importance of early detection via screening of breast, cervical and colon cancer with prostate cancer screening. This does not reflect Australian Government policy. Not once throughout the study period did any report mention that nearly all national and international cancer control and expert health technology assessment bodies do *not* support prostate population screening.

Accuracy of the test

PSA is 60% more predictive of cancer than mammography. [urologist]

For the accurate record — PSA testing detects significant cancer, not incidental subclinical prostate cancer. Most PSA-detected cancer, if untreated in men under 70 with a normal life expectancy, will kill that man. [urologist]

Once you have them [symptoms] it's almost always incurable. [urologist]

Claims that the PSA test is more accurate for prostate cancer than mammography is for breast cancer are inconsistent with the evidence. For example, in the Prostate Cancer Prevention Trial, the sensitivity (capacity to detect cancer if present) of PSA at a cut-off level of 4.1 ng/mL was 40% for cancer with Gleason grade ⩾ 7. In other words, the test missed 60% of moderate- to high-grade cancers.[12] At the same threshold (4.1 ng/mL), the false positive rate was about 10%, meaning that 10% of men with no prostate cancer received an abnormal PSA result. This compares with a sensitivity of 75%–95% for screening mammography,[13] and a false positive rate of 2%–7%.[13,14] Because the sensitivity of the PSA test is poor, clinicians may use an even lower threshold such as 2.5 ng/mL in calling a test result abnormal. In the Prostate Cancer Prevention Trial, using 2.6 ng/mL as the threshold for an abnormal result increased the sensitivity to 67%, but the false positive rate increased to 23%.

The assertions that PSA testing detects significant disease and that most men with PSA-detected prostate cancer will die of their cancer are totally indefensible on the evidence. Among men with clinically detected, well differentiated prostate cancer, long-term survival is excellent, with little or no reduction in life expectancy compared with men without prostate cancer.[15] As screen-detected cancers are, on average, less aggressive than clinically detected cancers,[16,17] it is misleading and alarmist to imply that most PSA screen-detected cancer will be life threatening. Indeed the reverse is true: *most* PSA screen-detected cancer is not life threatening. Data from the European Randomized Study of Screening for Prostate Cancer suggest that, with yearly or even 4-yearly PSA screening, 48%–56% of the cancers found would never have been diagnosed in the absence of screening.[18] The over-detection of prostate cancer (ie, screening detection of low-grade cancers not destined to affect health or life expectancy) is one reason why prostate cancer rates increase so steeply after the introduction of PSA screening.[19-22]

Over-diagnosis tends to lead to over-treatment, and the harms caused by treatments are important (see below).

The efficacy and importance of early detection and treatment

Top ... urologist ... says Canada and the United States have dramatically cut cancer rates by promoting the test. [attributed to urologist]

If you had a family history, probably from 40, and if you're a general person in the population about 50 on ... I think early diagnosis really improves your chance of cure. [urologist]

But early diagnosis is the key to surviving, with 97% of men getting treatment early beating the disease. [TV journalist]

I'm not going to say there is proof, but there is suggestive evidence that PSA testing is reducing mortality. [urologist]

Claims attributing observed declines in prostate cancer mortality to PSA screening are based on observational studies, which provide unreliable evidence for addressing this question. Declines in prostate cancer mortality in the United States have been attributed to PSA screening, but also to improved treatments available for advanced prostate cancers.[23] Similar falls have been observed in England and Wales, where PSA testing is less common and "has been discouraged".[24] In Canada, one study demonstrated that the decline in mortality is unlikely to be due to PSA testing, despite claims to the contrary.[25] The efficacy of PSA screening will not be resolved until the PSA trials currently in progress report their results.

There are some studies (randomised trials and observational studies) comparing different management options for prostate cancer (eg, comparing surgery [radical prostatectomy] and watchful waiting[26]). However, the applicability of this study to the question of the efficacy of PSA screening is limited, as it recruited subjects who predominantly had clinically detected, rather than screen-detected, cancers.[26] As noted, many screen-detected cancers will not threaten survival in the same way as clinically detected cancers, and therefore data from such studies may not be applicable to screen-detected cancers. Treatment trials in men with screen-detected cancers are needed.

Reassurance on adverse effects

... while urinary incontinence after surgery to remove the prostate is rare and no longer a factor, potency remains a key issue. [attributed to urologist]

Incontinence is now a rare side effect of cancer treatment and nerve-sparing surgery enables 80% of patients to regain sexual function. A further 20% are helped by potency drugs such as Viagra. [attributed to a urologist]

Incontinence is now a rare side effect. [urologist]

... less than 2% risk [of incontinence] after surgery or radiation. [urologist]

I'm pretty healthy and everything works. A lot of guys are worried about the incontinence and the impotency and all that stuff, but the technology today is such that there's very little adverse effect in those areas. [prominent businessman]

Considerable evidence contrasts markedly with these optimistic claims made by screening advocates. A follow-up study of men undergoing radical prostatectomy reported that, after 5 years, 14%–16% of men had urinary incontinence, and 79% had erections insufficient for intercourse.[27] A review undertaken by the US Preventive Services Taskforce (USPST) found 15%–50% of men experienced long-lasting urinary problems after prostatectomy, compared with 2%–16% after radiation therapy.[15] The same review found that 20%–70% and 20%–45% of men experience reduced erectile function after prostatectomy and radiation therapy, respectively, and 6%–25% experience bowel problems after radiation therapy.[15] Adjuvant therapies

such as androgen deprivation therapy also have adverse effects: 5%–25% experience breast swelling and 50%–60% experience hot flushes. All these measures were recorded at least 12 months after treatment.[15]

Significantly, the USPST review noted that current evidence on whether newer nerve-sparing surgical procedures reduce rates of adverse effects was mixed "outside of excellent academic centers",[15] a point particularly relevant to the debate in Australia, where the purported benefits of robotically assisted prostate surgery using the da Vinci surgical system have featured in four television items. On *60 Minutes*, an extended segment was introduced with:

> Until now many men have been turned off seeking treatment, including surgery, because of the side effects. Impotence and incontinence are common. But now there's a new technology that doctors hope will change that.

However, only three Australian facilities have the equipment, and only 11 surgeons are trained in its use.[28] Although advantages reportedly exist in terms of decreased patient pain and recovery times, long-term oncological benefits are unclear, nor is there clear evidence of appreciable reductions in the incidence of incontinence or erectile dysfunction.[29,30]

Given that the da Vinci system has only been in use since the late 1990s, the absence of long-term results is predictable, but this "lack of current clear evidence that there is true benefit associated with this technology"[31] has not stopped Australian proponents from highlighting its efficacy. "[A]ggressive marketing and commercial interests"[31] are key factors in promoting this costly technology.

Men considering these claims should be aware that optimistic claims about adverse effects after prostate surgery are commonly made by urologists. However, when ratings of urinary symptoms made by patients and by their urologists are compared, significantly more adverse ratings are made by patients.[32]

Finally, the adverse psychological effects of receiving a cancer diagnosis, and then having to make difficult choices between treatments, all of which have substantial risks of adverse effects, should not be overlooked. Men who choose watchful waiting over any of these treatment options have to live with their cancer diagnosis. Data from the trial of prostatectomy versus watchful waiting suggest that the quality-of-life effect of a cancer diagnosis followed by watchful waiting or surgery is substantial.[33]

DISCUSSION

Australians relying on news media for informed comment on prostate cancer are exposed to an overwhelmingly positive stream of encouragement to seek testing.[8] This encouragement draws on a variety of rhetorical themes, particularly the notion that early detection of asymptomatic cancer is the cornerstone of successful early intervention. Although 10% of the statements in our study sample were assessed as false or misleading, this should not be taken to mean that the reciprocal 90% were all "correct": many were statements best described as rhetorical, being neither right nor wrong. In summary, the overall "message" being received by Australian men through the media about prostate cancer is dominated by rhetoric supporting screening. This also incorporates inaccurate and misleading information and rarely provides media audiences with anything remotely approaching the Urological Society of Australia and New Zealand's concern that men should receive information "regarding the potential risks and benefits of investigations and the controversies of treatment".[11] Instead, as a prominent advocate for screening expressed in hyperbolic overdrive, "the news is all good". Australian men are ill served by such unbridled optimism and the false and misleading statements documented in this article.

Journalists, editors and program producers have huge responsibilities in ensuring the accuracy and balance of information and the reliability of sources they select to communicate with sometimes millions of consumers about matters that can, as in this case, precipitate major life-altering actions. Information about the continuing controversy over prostate cancer screening is readily locatable on the Internet from authoritative sources that do not have competing interests. This information shows that glib, uncritical parallels with screening to detect breast, cervical and colon cancer are not evidence based.

Similarly, using as news sources men who have had prostate cancer detected by screening can be problematic. Such men often believe fervently that they would not be alive without having been screened, often not appreciating that their cancer may not have affected their lives and that, if they promote screening, many other men will suffer avoidable, adverse effects of post-operative surgery or have to live with the knowledge that they have cancer. We found no examples of urologists who claimed low incontinence and impotency rates following surgery who qualified these claims by explaining that the average man having a prostatectomy in Australia will be highly unlikely to have robotic surgery. Although upbeat, optimistic claims by doctors, pleas for screening by men who had learnt they had cancer after being tested, and footage of high-tech machinery may all make appealing television, such a diet is a poor foundation on which Australian men can make informed choices about being tested. Independent health authorities should commission and promote decision aids to assist men in making these choices.[34]

COMPETING INTERESTS

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