# Journal Club
# July 30, 2014

OPEN ACCESS Freely available online

PLOS one

## Media Reporting of Health Interventions: Signs of Improvement, but Major Problems Persist

**Amanda Wilson[1]*, Billie Bonevski[2], Alison Jones[1], David Henry[3]**

**1** Discipline of Clinical Pharmacology, School of Medicine and Public Health, The University of Newcastle, Newcastle, Australia, **2** Centre for Health Education and Psycho-oncology (CHeRP), School of Medicine and Public Health, The University of Newcastle, Newcastle, Australia, **3** Institute for Clinical Evaluative Sciences, Sunnybrook Health Sciences Centre, Toronto, Canada

# Structure of today's JC

- The journal article
- Article weaknesses
- Article strengths
- The wider research context
- What can we do to assess/improve media coverage of healthcare?

# The journal article

OPEN ACCESS Freely available online

PLoS one

## Media Reporting of Health Interventions: Signs of Improvement, but Major Problems Persist

**Amanda Wilson[1]*, Billie Bonevski[2], Alison Jones[1], David Henry[3]**

**1** Discipline of Clinical Pharmacology, School of Medicine and Public Health, The University of Newcastle, Newcastle, Australia, **2** Centre for Health Education and Psycho-oncology (CHeRP), School of Medicine and Public Health, The University of Newcastle, Newcastle, Australia, **3** Institute for Clinical Evaluative Sciences, Sunnybrook Health Sciences Centre, Toronto, Canada

**Abstract**

***Background:*** Studies have persistently shown deficiencies in medical reporting by the mainstream media. We have been monitoring the accuracy and comprehensiveness of medical news reporting in Australia since mid 2004. This analysis of more than 1200 stories in the Australian media compares different types of media outlets and examines reporting trends over time.

***Methods and Findings:*** Between March 2004 and June 2008 1230 news stories were rated on a national medical news monitoring web site, Media Doctor Australia. These covered a variety of health interventions ranging from drugs, diagnostic tests and surgery to dietary and complementary therapies. Each story was independently assessed by two reviewers using ten criteria. Scores were expressed as percentages of total assessable items deemed satisfactory according to a coding guide. Analysis of variance was used to compare mean scores and Fishers exact test to compare proportions. Trends over time were analysed using un-weighted linear regression analysis. Broadsheet newspapers had the highest average satisfactory scores: 58% (95% CI 56–60%), compared with tabloid newspapers and online news outlets, 48% (95% CI 44–52) and 48% (95% CI 46–50) respectively. The lowest scores were assigned to stories broadcast by human interest/current affairs television programmes (average score 33% (95% CI 28–38)). While there was a non- significant increase in average scores for all outlets, a significant improvement was seen in the online news media: a rise of 5.1% (95%CI 1.32, 8.97; P 0.009). Statistically significant improvements were seen in coverage of the potential harms of interventions, the availability of treatment or diagnostic options, and accurate quantification of benefits.

***Conclusion:*** Although the overall quality of medical reporting in the general media remains poor, this study showed modest improvements in some areas. However, the most striking finding was the continuing very poor coverage of health news by commercial current affairs television programs.

**Citation:** Wilson A, Bonevski B, Jones A, Henry D (2009) Media Reporting of Health Interventions: Signs of Improvement, but Major Problems Persist. PLoS ONE 4(3): e4831. doi:10.1371/journal.pone.0004831

**Editor:** Lise Lotte Gluud, Copenhagen University Hospital, Denmark

**Received** September 18, 2008; **Accepted** February 2, 2009; **Published** March 18, 2009



**Funding:** Media Doctor Australia has received funding over the past two years from the Hunter Medical Research Institute and the University of Newcastle. The funders has no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

**Competing Interests:** The authors have declared that no competing interests exist.

* E-mail: amanda.j.wilson@studentmail.newcastle.edu.au

### Introduction

The mainstream media are often the first source from which the public, including health professionals, learn about medical advances [1,2,3,4]. It is crucial when dealing with health issues to avoid creating false hope to those most vulnerable, or generating unwarranted pressure on limited healthcare funding for interventions [5,6]. There is a general expectation that the media will provide accurate, unbiased and complete information. messages and awareness campaigns including preventative screening, suicide prevention and smoking cessation [10,11,12,13,14,15]. As a result media outlets are inundated with sometimes conflicting health information from companies, researchers, institutions, the government and consumers. Yet, there is little or no specialised training available for Australian journalists who are expected to interpret often impenetrable statistics and health jargon.

Until recently, researchers, medical journals and other independent groups have done little to assist journalists interpret

# 4 years of ***Media Doctor*** Scrutiny

- Newcastle-based ***Media Doctor*** 2004-2008
- Reviewed strengths & weaknesses of 1230 Australian medical news stories
- Stories on new health interventions – drugs, procedures, tests, complementary therapies
- TV, radio, broadsheets, tabloids, online

# Methods to analyse news stories

- Researcher locates news stories
- Stories reviewed independently by 2 reviewers
- Validated rating instrument, 10 criterion
- Each criterion scored ‘satisfactory’, ‘not satisfactory’ or ‘not applicable’.
- Each story given global score
- Cumulative scores for media outlets

# Rating Instrument Criteria

| Rating Criteria*: The extent to which the story: |
|---|
| 1. Reported the novelty of the intervention |
| 2. Reported the availability of the intervention |
| 3. Described the treatment or diagnostic options that are available |
| 4. Avoided elements of disease mongering |
| 5. Reported evidence supporting the intervention |
| 6. Quantified the benefits of intervention |
| 7. Described the harms of intervention |
| 8. Reported on the costs of intervention |
| 9. Consulted with independent expert sources of information |
| 10. Went beyond any available media release. |

*Stories are marked 'satisfactory', 'not satisfactory' or 'not applicable'. Criteria used to determine scores are available at http://www.mediadoctor.org.au/content/ratinginformation.jsp.

doi:10.1371/journal.pone.0004831.t001

# Analysis

- Cumulative scores for 9 media outlets
- Statistical analysis of variance between outlets and changes over time
- Media grouped into:
  - Tabloid papers
  - Broadsheet papers
  - Online News
  - Commercial Current Affairs

# Results

Of 1230 stories, 2004-2008

- 50% of stories on drugs
- 10% on tests
- 8% on surgical procedures
- 31% on ‘other’, including

# Results

Statistically significant difference across different forms of media outlets – average ‘satisfactory’ scores

- Broadsheets 58%
- Tabloids 48%
- Online 48%
- Current affairs TV 33%

Regression analysis of trends over time, only online showed tiny improvement

# Results

Several individual domains of coverage showed *slight* statistically significant improvements over time, from 2005-2008 (Table 2)

- Quantification of benefits
- Availability of intervention
- Harms of intervention

# Results

- Worst reporting is TV current affairs (2.7 million viewers per night)
- For cellulite stories quality was thin
- Stories promote untested cancer therapies and unproven interventions for kids with learning or behaviour problems

# Discussion

Causes of poor quality….

- Lack of time and space for details
- Culture of newsroom – editor wants optimistic or exaggerated health story
- Reliance on misleading press releases

# Discussion

“…..we are forced to conclude that the general media are generally failing to provide the public with complete and accurate information on new medical treatments”

“However, this analysis shows that the media are capable of improvement…”

# Article/study weaknesses?

- No details on instrument inter-rater reliability
- Possible bias among raters
- Not enough detail on how stories were chosen - possibility of bias
- Others?

# Article/study strengths

- Brings scrutiny to influential media coverage
- Uses explicit method
- Uses validated instrument
- Adds to wider evidence base about medical media coverage
- Others?

# Wider research context

# *NEJM* study 2000

80% stories using statistics overstated benefits

53% stories no mention of harms

Only 40% stories citing finacially tied expert or study, mentioned the tie

*Moynihan R,…Soumerai S. et al. NEJM, 2000;342:1645-50*

# Norway Study 2002

Most stories had *positive spin*

61 % stories no mention of harms

Only 2% of stories citing experts mentioned financial ties

*Sigurd Høye, Per Hjortdahl, Tidsskr Nor Lægeforen 2002; 122: 1671 - 6*

# Canada study 2003

19% stories reported only surrogate outcomes

68% stories no mention of harms

For only 3% interviewees were conflicts of interest mentioned

*Cassals A, et al, CMAJ, 2003*

# *Plos Medicine* 2006

## Coverage of Restless Legs Syndrome

70% ”uncritically present broad prevalence estimates”

71% failed to mention side effects of treatment

Conclusion: The media “exaggerated the prevalence of disease and the need for treatment” …and…..”seemed to have been co-opted into the disease-mongering process”

*Woloshin, S, Schwatrz, PLoS Med, 2006, 3(4)*

# Unhealthy medical reporting on healthcare interventions

*NEJM* US: 53% no mention of harms

Norway: 61% no mention of harms

Canada: 68% no mention of harms

*PLOS* US : 71 % no mention harms

# *JAMA* Study 2008

Study looking at reporting of industry funding

42% stories failed to report industry funding

*Hochman, M, et al, JAMA. 2008;300(13):1544-1550*

# *Archives* study 2010

Study of stories about cancer

Stories more often focussed on survival, rather than dying and death

Many stories failed to mention adverse events of aggressive treatment - or that it can fail to extend life

Majority of stories focus exclusively on aggressive treatment- less than 1% focus on alternatives including palliative care

“Hype is the norm”

*Arch Intern Med.* 2010;170(6):515-518

# *JAMA Int. Medicine* 2014

***Health News Review*** finds after reviewing 1900 media stories…

- Drugs, medical devices, and other interventions usually portrayed positively
- potential harms were minimized
- costs were ignored

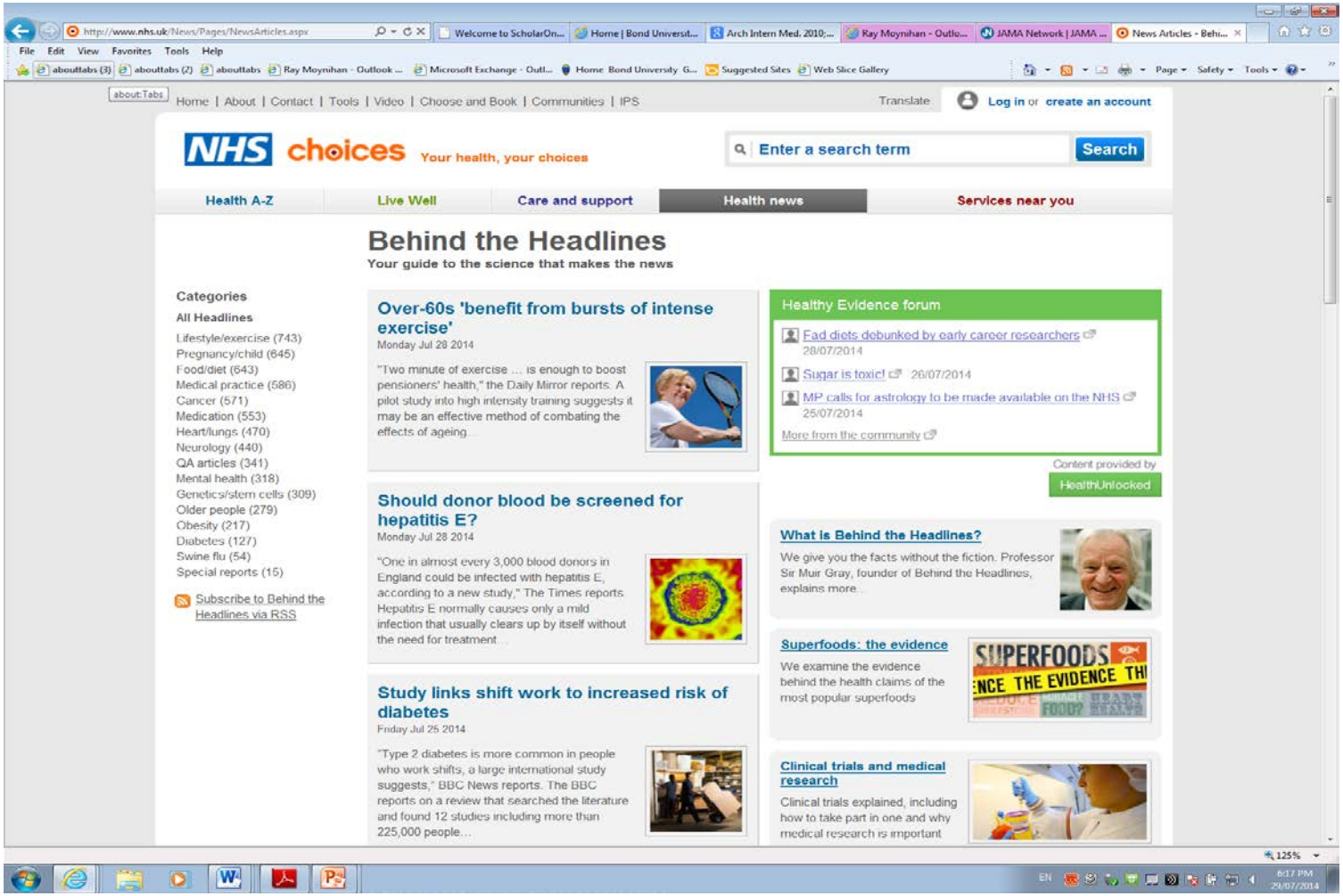
# Unhealthy medical reporting

- Too many stories hype benefits
- Too many play down harms
- Too many stories ignore conflicts of interest

# Where to from here?

- More research evaluating media?
- Research assessing educational interventions?
- A trial involving journalists?
- An aggressive Medical Media Watch?
- Australian version of *Behind the Headlines*?

# Behind The Headlines – NHS – UK




http://www.nhs.uk/News/Pages/NewsArticles.aspx

More discussion

Thanks