

Supplementary File 3: Journalists quotations

Themes	Supporting quotes
1. Readers' interest in tests	<p><i>"Readers are really interested in it. It presents I guess hope and different scientific advances that might change outcomes are probably pretty appealing to a general audience." (J19, 7 years' experience)</i></p> <p><i>"I think they're very interested. 'Cause I think health stories in general are quite popular. 'Cause they affect everybody." (J20, 33 years' experience)</i></p>
2. Ingredients of a 'good' news story	
Newsworthiness	<p><i>"Well for starters it needs to, to be a useful test. Like there needs to be a need for it." (J7, 6 years' experience)</i></p> <p><i>"Is this delivering something that's going to be genuinely helpful to people." (J11, 4 years' experience)</i></p>
Research Evidence	<p><i>"Um... well it's rarely a randomised trial. The evidence is usually... um... pretty lousy. More often than not I won't do the story." (J9, 36 years' experience)</i></p> <p><i>"I mean reviews are the best but that's probably, they probably don't exist for newish testing. yeah, I mean I, I guess peer review research, published research" (J19, 7 years' experience)</i></p>
Obtain Independent Opinion	<p><i>"Oh, I'd probably be happy if I'd spoken to a radiologist or a radiation oncologist and a urologist, I suppose. It's a bit of a vexed area where like, you know, it's been under battle for quite a while. So I'd be careful about who I was speaking to I suppose." (J16, 9 years' experience)</i></p> <p><i>"We would go to get some independent comment from someone else not affiliated with the study" (J12, 30 years experience)</i></p>

Awareness of Vested interests	<p><i>“We want to know where any funding has come from.” (J17, 12 years experience)</i></p> <p><i>“Who is promoting it? if there’s invested interest, that’s the main thing I can think of.” (J21, 4 years’ experience)</i></p>
Clarify Safety information	<p><i>“And then you would have a reasonable idea of what, of its efficacy and of course of its safety. And they’re the, they’re the two questions that you’re kind of obliged to ask really, you know? Does it work? And to what extent does it work? And, is it safe?” (J11, 4 years’ experience)</i></p>
<p>3. Journalists’ knowledge of potential harms of medical tests</p>	
General knowledge of harms	<p><i>“It can lead to inappropriate, um, healthcare, inappropriate use of resources or just public resources generally. You know, it can lead to over-medicalisation for things.” (J20, 33 years’ experience)</i></p> <p><i>“All that’s screening. And, um, there are harms as well as benefits. You know, not many harms, but... they’ve, they’ve not been well documented.” (J9, 36 years’ experience)</i></p>
Knowledge of overdiagnosis	<p><i>“Back pain’s a great example of this, right? If the more people you test, the more abnormalities you will find but those abnormalities are actually perfectly natural and aren’t linked to back pain. But once you start finding them then it gets into people’s heads that, oh my God their spine’s falling to bits and they should be treated and we should do something about it. And so you end up with over treatment as well.” (J15, 5 years’ experience)</i></p> <p><i>“My understanding is that it’s basically, the idea that people are being told that they have illnesses or they’re falling into the classification of having a disease or illness, which would otherwise not affect their quality of life. And then they may be offered or sold, treatments that aren’t going to make a difference because the illness was never going to affect their quality of life in the first place. And then the negative obviously of that is that some of these invasive tests and treatments could actually damage</i></p>

	<i>their quality of life” (J10, 4 years’ experience)</i>
Public and other journalists’ knowledge of harms	<p><i>“The understanding within general society and within the media of overdiagnosis is, I would think, low to non-existent.” (J15, 5 years’ experience)</i></p> <p><i>“I think there definitely needs to be more awareness of the issues around over diagnosis in the broader media community, cause I don’t think it’s a very well known issue. And if people don’t know about it they’re not going to include it in their stories.” (J2, 6 years’ experience)</i></p>
4. Factors influencing the framing of media coverage	
Press releases	<p><i>“They can be good in terms of directing you or tipping you off about new research or a certain expert in the area. But I usually take the, whatever comes out of a PR agency with a grain of salt” (J10, 4 years’ experience)</i></p> <p><i>“Press releases, even sort of the Universities (laughs) and researchers are still making, you know, these massive mistakes and over-blowing research.” (J3, 9 years’ experience)</i></p>
Click-bait	<p><i>“You know, ‘breakthrough’ and ‘cure’ and those kind of very emotive words... people might want to click on those.” (J5, 22 years’ experience)</i></p> <p><i>“It doesn’t effect me at all. Because don’t write for the outlets where that may, you know, my salary or my pay is conditional on clicks or click-throughs. But I think, yeah, click bait is a problem in all media, not just in health and medical.” (J1, 20 years’ experience)</i></p>
Commercial interests	<i>“Commercial partners that may be interested in getting the test out there, people who stand to benefit financially. So that’s a pressure out there. There are also maybe patient groups. I don’t know whether the patient groups share an agenda with people who are making a financial gain from the test or not?” (J4, 30 years’ experience)</i>

	<i>“I think if I was approached by a pharmaceutical company with a new test they’ve developed I’d be very hesitant to write a story about it.” (J2, 6 years’ experience)</i>
Focus on good or bad news	<i>“Especially when it’s diseases that are, you know, really intractable or that people are really afraid of. I think it’s very easy to oversell things. It’s all about having a good story.” (J1, 20 years’ experience)</i>
Lack of training and experience	<i>“generalists don’t really have a background in health or science that are covering these things, not really getting to the bottom of where the money’s coming from?” (J3, 9 years’ experience)</i> <i>“I think especially beginner journalists or journalists who are just starting in the health round can approach topics uncritically” (J16, 9 years’ experience)</i>
5. Barriers to critical coverage of medical tests	
Journalist knowledge and experience	<i>“I think first and foremost when it comes to screening tests, I would say the knowledge around the potential pitfalls of screening or over screening is not well known or understood. I think that applies to the general population but I also think that probably applies to journalists as well.” (J6, 6 years’ experience)</i> <i>“I feel the core challenge is lack of knowledge. Like.. you know, I think you could speak to lots of health and science and just general news journalists and they would just have no idea that that was even a problem. You know, so I, I... and I, I reckon that their idea of it would probably as a percentage, you know, be in line with the general public.... percentage of people who understood that there’s a problem. Like there just isn’t the literacy about this topic in the community or in the media.” (J15, 5 years’ experience)</i>
Time pressures	<i>“I think a really key barrier for most journalists is time. You’re often making decisions about coverage in that split second moment between like deleting or not deleting an email.” (J13, 6 years’ experience)</i>

	<i>“The main thing is time. You can’t overstate it. And, and, yeah, the pressures of deadlines are just... constant and sometimes, yeah, unmanageable.” (J21, 4 years’ experience)</i>
Lack of access to experts	<i>“I didn’t end up covering it. But it was, it was a major issue because I spent at least a day trying to find someone, like a whole day trying to find someone to, who had the time, and, and the expertise, and I just couldn’t find them.” (J17, 12 years’ experience)</i> <i>“Just not perhaps having ready access to perhaps a group of reliable experts that can comment either on or off the record” (J18, 25 years’ experience)</i>
Complexity of overdiagnosis	<i>“So in a lot of ways that’s a message that’s been drummed into people for the last 30 years. You know, go and get, get a pap smear, go and get a mammogram, you know, go and get a bowel cancer test, and it comes in the mail. So that message of you need to be screened, you need to be getting a regular test has been something that’s been embedded in people’s minds. So it’s almost counterintuitive for them to think there’s a test there, why wouldn’t I have it?” (J12, 30 years’ experience)</i> <i>“Overdiagnosis sounds like a contradiction... because everybody wants a diagnosis. So how could having a diagnosis possibly be bad? Um... but yeah, we’re not very good at explaining it” (J8, 32 years’ experience)</i>
6. Enablers of critical coverage of medical tests	
Journalist training	<i>“Teach us how to read medical research, you know, how to tell if a publication is good or not.” (J2, 6 years’ experience)</i> <i>“More journalism education in relation to evidence, types of evidence, statistics, all that kind of thing” (J4, 30 years’ experience)</i>
Training for academics and peak bodies	<i>“There’s work to do in educating some other sectors as well, like, you know, some of the, um... the medical colleges and the AMA and some of the other... medical and health groups that are called on to</i>

	<p><i>comment on these stories” (J3, 9 years’ experience)</i></p> <p><i>“I think the onus is partly on... whoever is, um, providing recommendations around screening, whether that’s research institutes or not-for-profits advocacies, the health, government departments and so on.. that, you know, it would be pretty unusually I think to go on a website where there’s recommendations to screening that has a section about, um, when screening is not appropriate or, or the kind of pitfalls of over screening. I think that’s probably something that’s overlooked” (J6, 6 years’ experience)</i></p>
Better attempts to communicate harms	<p><i>“It would be worth groups like the group at Bond University, perhaps if they know research is coming out, or if they seen research is coming out, being a little bit reactive and putting out a media release of their own... yeah, I think, I think that a louder voice in the over diagnosis area would be, be fantastic.” (J2, 6 years’ experience)</i></p> <p><i>“There are powerful stories to be told about... people... the harms that are done..... from over testing and over treatments, and putting those stories out there would be, yeah, finding the stories and putting them out there would be... a good way to help bring some of those story tropes to the fore to make them more accessible to journalists.” (J4, 30 years’ experience)</i></p>
7. Interest in a training intervention	<p><i>“Yeah, I, I think it’s an excellent idea. And I think we should do it.” (J15, 5 years’ experience)</i></p> <p><i>“Yeah, look I think it would be great. Um, my favourite type of training personally is the ones where you do a lot of work shopping on stories.” (J4, 30 years’ experience)</i></p>