Government of **Western Australia**
Child and Adolescent Health Service

CAHS Research Education Program

Research Skills Seminar

Media and Communications in Research

12th August 2022

Presented by

Elizabeth Chester
Director of External Affairs
Telethon Kids Institute

TELETHON KIDS INSTITUTE
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Child and Adolescent Health Service, Department of Research

Department of Health, Government of Western Australia

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Child and Adolescent Health Service

Media and Communications in Research

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Research Education Program | Research Skills Seminar Series

Proudly supported by
Perth Children's Hospital Foundation

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Acknowledgement of country

I would like to acknowledge the traditional custodians of the land, the Noongar Whadjuk people, and pay my respects to their elders, past, present and future.

2

Communications 101

3

3

Communication counts

- Recruit and consent participants
- Secure stakeholder support
- Translation of research into action – education/policy
- Raise organisation/researchers profile through achievements
- Advocacy for children/public health
- Reinforce value of research

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Communication 101

- The way the message is delivered always affects the way the message is received
- The real communication is the message received not the message intended
- Communication is always a two way street

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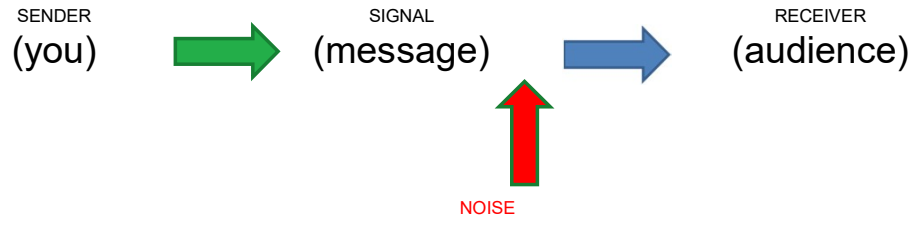
Communication process



The only message that matters is the one the other person receives

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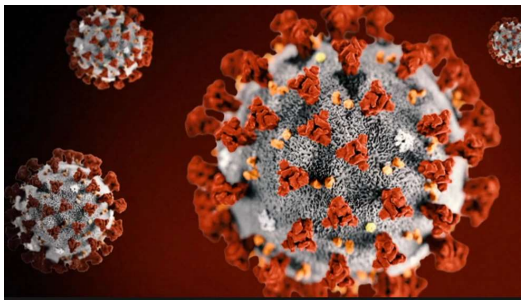
COVID and Comms

PROS
- Research is front of mind
- Increase in public health literacy
- Everyone is an epidemiologist

CONS
- Conspiracy theories
- Noisy
- Dominance of one issue
- Fatigue



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What v Why

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What: Research Process

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Why: Research Impact

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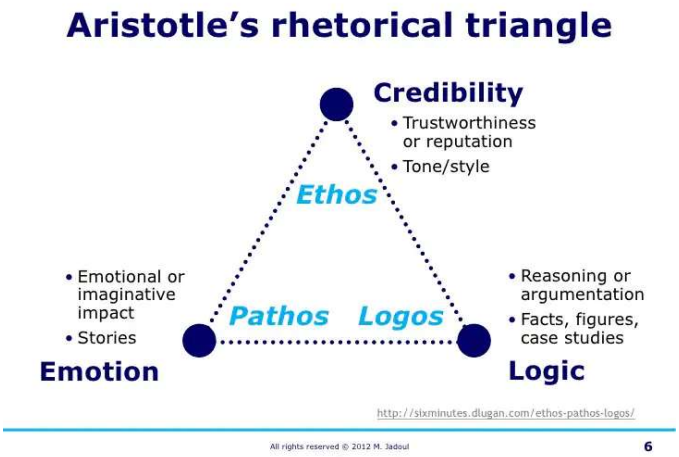
Aristotle's Rhetorical Triangle



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Study Communications

More than a media release, social post, flyer and brochure ….

In your comms plan consider:

- How will you create a community?
- How will you build trust?
- How will you feedback progress?
- Opportunities for ongoing engagement?

NEED TO INCLUDE IN YOUR BUDGET

Need Inspiration?
originsproject.telethonkids.org.au
clinikids.telethonkids.org.au

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Why focus on media?

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Sharpening the message

- Why engage with the media?
- What do they want?
- What do you want?
- Tips and Techniques

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The Mass Media

- **Print** – Metro, Community, Regional, Special interest
- **Radio** – ABC, Commercial, Community, Regional, Talkback, Music
- **Television** – ABC/SBS, Commercial, Community, Pay, Free to air
- **Online**
- **Social**

*Mainstream/niche

*Current affairs/news

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TYPE	QUOTES	LENGTH	TOTAL STORY	STORY FORMAT
TV NEWS	1-2 grabs	5-10 secs	1:10 – 1:30	Edited
TV CURRENT AFFAIRS	2-4 grabs (or LIVE)	10-20 secs	2:30 – 5:00	Edited or Live
RADIO NEWS	1 grab	10-20 secs	:30 - 1:00	Edited
RADIO CURRENT AFFAIRS	2- 4 grabs	10-20 secs	2:30 – 4:00	Edited
RADIO PROGRAM	Live interview	10-30 secs	Varies Average: 5 mins	Live
PRINT/ ONLINE NEWS	1 -2 quotes	1-2 sentences	300-800 words	Edited
PRINT/	Multiple	Multiple	Unlimited	Edited

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What Makes News?

- Awards
- Fame/power
- The unusual
- Something new
- Controversy
- Timeliness
- Events
- Proximity
- Disaster/crime
- Pictures stories

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The Story

- Facts
- Opinion
- Emotion
- Drama
- Pictures

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Who cares? The “so what!”

- What is the problem you’re trying to solve?
- How will it help kids/families?
- Who am I trying to reach?
- Why should they care?

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Making Impact

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Remote kids now swimming in good health

Amanda Banks

SWIMMING pools at some of the nation's most remote Aboriginal communities are bringing dramatic health benefits for the children, slashing rates of disease and infection.

Former Australian of the Year Fiona Stanley joined Olympic swimming legend Shane Gould yesterday to unveil the results of a world first health study.

The six-year study provides evidence to support the anecdotal belief that swimming pools — described by experts as giant saline solutions — in isolated Indigenous communities will cut rates of ear, skin and respiratory disease and reduce the associated use of antibiotics.

At the West Australian community of Jigalong, on the edge of the Great Sandy Desert — where temperatures can soar above 50C for days on end — the swimming pool has become a hive of social activity for the locals.

It is used as an incentive to boost attendance rates at the school and is linked to a drop in petty misbehaviour and an increase in the happiness of otherwise bored children.

But more startling are the proven health benefits of the pool, described by many in the project as a "little oasis" in the middle of the desert in the harsh east Pilbara region.

The study by the Telethon Institute for Child Health Research has shown that since the pool opened in 2008, respiratory disease has been cut by 63 per cent and antibiotic prescription is down 41 per cent.

Using six-monthly assessments of all children at the transient community, along with medical records from the health clinic, the research reveals rates of skin disease have fallen 51 per cent and the incidence of ear disease has dropped 44 per cent.

At a community swimming

Continued — Page 6

A little oasis: Fiona Stanley, in pink, and Shane Gould take a dip with the local children at Jigalong pool yesterday

Picture: Colin Murty

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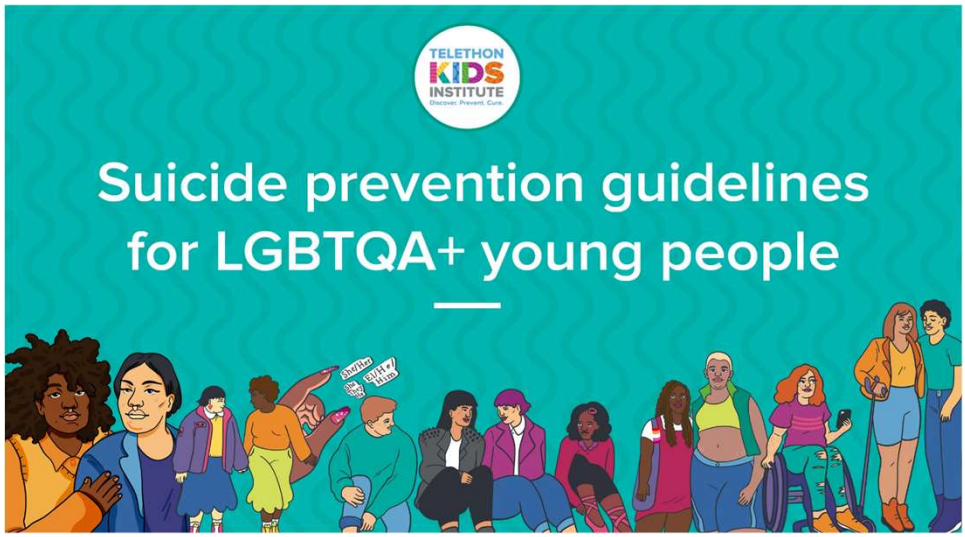

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Be prepared

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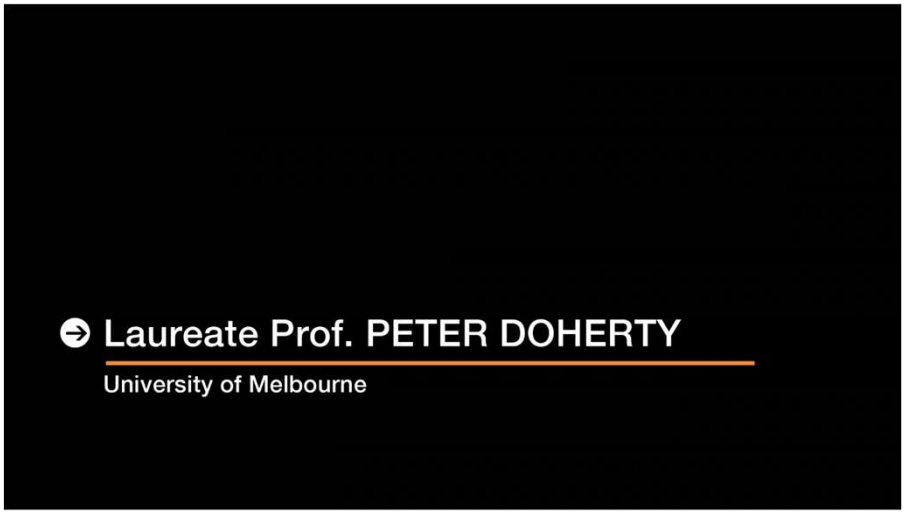
The Scientist's Perspective

sciencemediasavvy.org



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Working with Journalists

- **Nothing is off the record**
- Be aware of deadlines
- Consider photo/vision opportunities
- Practice catchy prepared grabs
- Personalise where possible
- Never say 'no comment'
- Offer to meet the journalist
- Use positive language
- Give examples

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> **Everything should be made as simple as possible, but not simpler**
>
> *Albert Einstein*

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Terms that have different meanings for scientists and the public		
Scientific term	**Public meaning**	**Better choice**
enhance	improve	intensify, increase
aerosol	spray can	tiny atmospheric particle
positive trend	good trend	upward trend
positive feedback	good response, praise	vicious cycle, self-reinforcing cycle
theory	hunch, speculation	scientific understanding
uncertainty	ignorance	range
error	mistake, wrong, incorrect	difference from exact true number
bias	distortion, political motive	offset from an observation
sign	indication, astrological sign	plus or minus sign
values	ethics, monetary value	numbers, quantity
manipulation	illicit tampering	scientific data processing
scheme	devious plot	systematic plan
anomaly	abnormal occurrence	change from long-term average

Source: Physics Today

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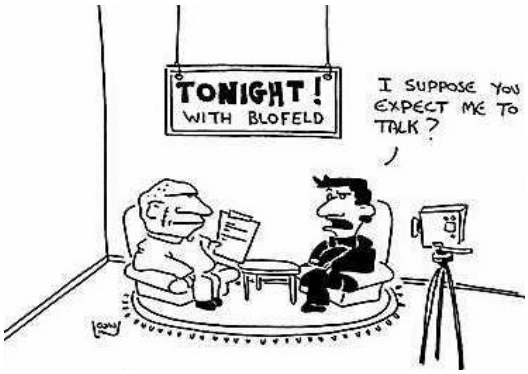
The Magic Formula

Q.A.P.

- Question
- Answer
- Point



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Interview Notes

Program/Publication:
Journalist's Name/Number:
Date/ time:
Subject:
Visuals:
Location:
Other interviews:
Key Messages
1)
2)
3)
Reference Notes

Question
Answer
Point

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Credibility matters

- Don't make statements you can't back up
- Avoid hyperbole and overblown statements
- Check your facts before speaking to the media
  - if you think you've made a first-of-its kind discovery, check before you say that
- Work with your comms team to manage relationships with the media and to frame stories positively

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Victor Chang Cardiac Research Institute

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Historic Discovery Promises to Prevent Miscarriages and Birth Defects Globally

UPDATE;

Click here to read the latest statement from the Victor Chang Institute.

OVERVIEW

- One of Australia's greatest discoveries in pregnancy research
- Vitamin B3 can potentially *treat* molecular deficiencies which cause miscarriages and birth defects
- Discovery promises to reduce miscarriages and birth defects
- Findings expected to change the way pregnant women are cared for

A blockbuster, world first breakthrough at Sydney's Victor Chang Cardiac Research Institute is expected to prevent recurrent miscarriages and multiple types of birth defects, in one of Australia's most significant discoveries in pregnancy research.

Crucially, Australian scientists have also demonstrated a potential *cure*, in the form of a common dietary supplement.

This historic discovery is expected to forever change the way pregnant women are cared for around the globe. Every year 7.9 million babies are born with a birth defect worldwide and one in four pregnant women suffer a miscarriage in Australia. In the vast majority of cases the cause of these problems has remained

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Social Media now

- Facebook algorithm – pay to play platform
- Social is social – build a community
- Be authentic and transparent
- Video, Video, Video
- Push toward ‘live’ content
- Most social platforms want you to stay on them – so tags, hashtags and native (3 min+) videos are getting higher rankings
- Rise of LinkedIn, Twitter and Instagram

Trust is built in traditional media

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How to do Social Media well

- **Content** – quality over quantity
- **Timing** – if it's topical, don't leave it too late
- **Relevancy** – What value is your post/tweet/update adding to the millions of other messages out there?
- **Get noticed** – Follow those you want to follow you, and tag those who you think will be interested in your content
- **Choose your platform carefully**….

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Confidentiality

You have an ethical (and legal) responsibility to:

- Your peers
- Study participants
- Your organisation
- Your funders

Don't post unpublished data!

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Copyright

As well as research, copyright laws apply to:

- Images
- Recordings
- Music

Don’t post copyrighted papers!

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Tips and Techniques

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Writing a Media Release

- Attention grabbing headline
- First line most important
- Include who, what, when, where, why, how
- Direct quotes
- Short sentences – ideally one page in total
- Facts and statistics
- Contact numbers
- Background information should be attached, not in body of the release

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Web based interviews

- Check your background
- Make sure you are “well lit”
- Sit up
- Focus on the camera lens
- Add energy to your delivery
- If you are at home, try to make sure you will not be interrupted!

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Tips for Radio

- When possible, do the interview in a studio but be prepared for distractions
- Ask whether the interview is for a short news grab or a longer interview piece into programming
- Be aware of sound quality – avoid rustling papers, barking dogs and clearing your throat (drink lots of water!)
- **Treat all microphones as ON!**

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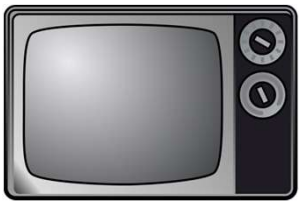
Tips for Television

- Check your appearance before you step in front of the camera
- Avoid distractions - bad ties, dangling earrings, heavy makeup
- Watch your eye line - look at the reporter unless specifically told otherwise
- Plant your feet - don't dance with the camera
- Act natural - brush away hair, flies etc.
- Remember your audience and talk to them



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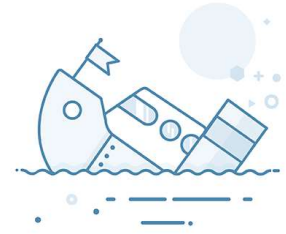
When Things Go Wrong

- Alert your Comms Department
- Timeliness is essential
- Think of other stakeholders
- Be honest and accountable
- Maintain media relationships
- Keep your cool
- All news becomes old news eventually



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Questions?
Comments?

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Upcoming Research Skills Seminars

19th Aug Knowledge Translation
with A/Prof Fenella Gill, Curtin University

25th Aug Oral Presentation of Research Results
with Dr Jane Mugure Githae, Research Fellow, REP

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https://tinyurl.com/surveyMediaComms

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Government of **Western Australia**
Child and Adolescent Health Service

Media and Communications in Research

RESOURCE NOTES

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1.Key Messages

Developing Your Key Message

Developing your key messages takes planning and self-discipline. While there may be many important things that you would like to say, at best, you can get up to three points across in a single interview.

For people who are deeply involved in complex issues, it can be a challenge to distil out the key understandings and actions required. This is not "dumbing down" – it is about clear and considered communication.

STEP ONE: Clarify Your Thoughts

- Who is your key audience?
- What is the issue/problem that needs solving?
- Why does it matter to them?
- What's the solution/action needed?
- What are the benefits?

STEP TWO: Determine Your Priorities

MESSAGE 1

If you could tell this audience only one thing, what would it be?

How can you make that one key message sound compelling? (Turn it into a "grab")

MESSAGE 2

If you could tell them one more thing, what would it be?

How can you make that second key message sound compelling?

MESSAGE 3

If you had a third message, what would it be? How could you make that sound compelling?

Tip! **No more than three key messages**

Remember QAP: Question. Answer. Point.

Interview Notes

Program/Publication:_____

Journalist's Name/Number:_____

Date/Time:_____

Subject:_____

Visuals:_____

Location:_____

Other Interviews:_____

_____

Key Messages:

1) _____

_____

2) _____

_____

3) _____

_____

Reference Notes:

_____

_____

_____

_____

_____

Question. Answer. Point.

Articles of interest

Tips for print and online interviews

http://sciencemediasavvy.org/wp-content/uploads/2012/01/2-SMS-print-and-online-tips.pdf

(full article inserted overleaf)

Tips for print and online interviews

When the media approaches you

Find out the purpose of the interview

- Your expert comment on a current issue?
- For an article about your research?
- A profile of you and your work?

Brief yourself on the newspaper, magazine or website the reporter represents

- Is their style serious or light?
- Is the audience likely to be already scientifically well-informed?

Brief yourself on the issue

- Why is it making news? (Do a quick Google search)
- Who else has commented?
- What can you add to the discussion?

Ask questions

- What will the angle and context of the story be?
- How long will it be?
- Who else will be interviewed?

When you are being interviewed

- Bring along high quality diagrams, figures or images that will help convey your message – they will help the journalist understand the story, and can greatly improve the prominence given to the piece
- Come prepared with simple examples and analogies about the science that will make it easier to understand and that will make good quotes
- Treat the journalist as a fellow professional
- Make absolutely sure that you've been understood
- Only say what you're happy to have printed

This tip sheet has been prepared by the Australian Science Media Centre (AusSMC). The AusSMC is an independent, not-for-profit service for journalists, working to improve links between the news media and the scientific community. We aim for a better informed society with greater access to evidence-based science. Last updated April 2012. www.sciencemediasavvy.org

After the interview

- If you're worried you may be misquoted, ring the reporter to check – it's not media practice to show you finished copy but a journalist will usually be happy to read the relevant parts of the article to you over he phone – they want to get it right too!
- If you're not happy with what is printed, ring and point out the mistake. Unless the error is really serious it's better then to move on – and be more careful next time
- Keep the contact details for the journalist you spoke to. Later you can update them on the progress of your research, and it means you have a contact if you are ever looking to draw the media's attention to other new research

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Tips from scientists who deal with media regularly

https://sciencemediasavvy.org/wp-content/uploads/2012/01/1-SMS-Tips-from-scientists.pdf

(full article inserted overleaf)

Tips from scientists who deal with the media regularly

When a journalist comes knocking, ask

- **Why are they calling you?** The very first things you need to know are who is the journalist, what outlet are they working for, what type of story are they putting together, why are they covering the story, why have they got in touch with you, and who have they already spoken to?

- **What is their deadline?** This is crucial. If you have time, even five minutes, then use it to prepare yourself. Decide on your three key points. Talk to your media officer. Research the journalist. Check the news to see what latest developments are prompting the call. But make sure you call them back when you said you'd call them back!

Before the interview, prepare yourself

- **Know your audience**
  You are talking to people at home, not your peers. Is it children, members of the public with a special interest, or your granny having tea? Your language and communication style should reflect who you are talking to

- **Know your journalist**
  Do a quick web search. Is this going to be a 30-second interview or an hour-long discussion? Have they covered the topic before? Do they report the story in a straight manner, or do they have an agenda?

- **Know the context**
  Understand how your scientific knowledge relates to the issue at hand – do some research and find out why it's making news. What else has been said?

- **Know what you want to say**
  Throughout your career, make sure you can explain what you do and why people should care in a concise, jargon-free statement. And in an interview, always know the three key points you want to make and that you want the public to hear. They will keep you on track if the questions go off on a weird tangent or it's a contentious issue. Just keep repeating your three points.

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General tips

- Go into a media interview relaxed, confident and prepared to engage and be yourself
- Deal with journalists as fellow professionals
- If you're not sure of anything, just ask
- If your science is very complex, work on developing stories and analogies that make it easier for the average person to understand
- If the media make mistakes, let them know, ask for a retraction if the mistake is a serious one, but then move on and be more careful next time
- Accept the sometimes fickle nature of the media – your story may be dealt with lightly or even 'bumped', but the pluses of engaging outweigh the minuses

A final word of advice

Turn to the professionals for help. Your organisation's media officer can be a fabulous resource; help you prepare, tell you about the journalists, write press releases and proactively get your message out. Save their number in your phone or stick it to your computer. And remember you can also always call the Australian Science Media Centre for advice.

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Tips for scientists using social media

https://sciencemediasavvy.org/wp-content/uploads/2013/05/6-SMS-Tips-for-scientists-using-social-media.pdf

(full article inserted overleaf)

Tips for scientists using social media

Why blog about science?

A science blog or micro-blog (like Twitter) allows you to:

- create your own web space and profile for you to manage, on your terms
- connect with peers, other researchers, potential employees and the interested public
- keep these people up to date with your research or news in your field of science, and allow them to offer their comments, support and ideas
- inspire others to become interested and involved in science
- get feedback on your analysis in a public forum
- source, share and securely archive content that interests you
- improve your writing skills.

Blogging can have rewards too; science bloggers are often invited to speak at conferences and as experts in the media, not because they are the most knowledgeable and decorated in their field of science, but because they have learnt to communicate their science clearly and concisely.

Is social media right for you?

Blogs and micro-blogs are a cheap and easy way to create a web presence. However, that doesn't mean you should start one for the sake of it.

The following seven questions are adapted from Darren Rowse of ProBlogger to help you figure out if it's worth creating a blog or signing up to Twitter.

1. **Why do you want to create a blog?** Is it to log your work or life, disseminate information, critique or start conversations? Choosing one message or topic to focus on will give your blog an easily searchable identity.
2. **Who do you want to communicate to?** The answer to this question will help you figure out the tone, writing style and content of your blog.
3. **Do you enjoy writing?** If not, blogging may not be for you, as it is predominately a written medium. Having said this, you could consider creating a video or audio blog.
4. **Are you passionate about your topic?** If you are only slightly interested in your blog's topic, it will be difficult to log in each day/week and come up with fresh, exciting posts and commentary. Choose a topic you're passionate about, and it will be easier and more fulfilling to update.

5. **Do you have enough time?** Starting a blog doesn't take too long but you need to set aside regular time to do it well. Likewise, updating can be quick but you need to update regularly, as well as moderate and reply to comments in a timely way.
6. **Are you a social person?** Expect to receive and reply to comments. Some conversations will be critical, so be ready to respond. Your blog is a way to start conversations, so don't ignore criticism.
7. **Are you honest and transparent?** These two qualities are vital for all social media. People on the web like to dig further into stories. If they find you out then your credibility can be tarnished. Be accountable and disclose conflicts of interest.

Top tips for tweeting

- **Keep it short.** If you are stuck for space, delete redundant words such as 'very' and try to limit your tweet to 120 characters to allow people room to retweet it.
- **Make it easy to read.** Watch spelling and grammar, and correct punctuation. Avoid ALL CAPS as it comes across as shouting. Use quote marks if you're quoting a source.
- **Write as if you are writing a newspaper headline.** You want to grab people's attention. Use strong, colourful, everyday nouns and verbs. People will be more inclined to retweet your tweet if it is superbly written and grabs attention.
- **Rewrite if necessary.** If you're linking to a blog post or an article on a website that is not your own, you don't have to use their headline if you think you can write a better one.
- **Check your tweets before publishing.** Tweets cannot be edited once published, but they can be deleted and rewritten if you notice an error immediately. However, planning before publication and correcting errors in follow-up tweets is better than deleting something which has already been published and seen by your followers.
- **Don't just tweet to promote yourself.** Tweeting about your own work is great, but constantly overselling yourself will turn people off, and you will become invisible to them.
- **Engage in conversation:** Twitter is as much about the conversation you have with others, so don't be afraid to @mention others on relevant topics, and to respond to people who interact with you.
- **Retweet with careful consideration.** You are displaying your editorial judgement to the world, and what you retweet reflects on you.
- **Credit others.** If you're retweeting someone, credit them for their work—it's common courtesy
    - More twitter jargon here

Using hashtags

A hashtag is a word, or string of words, prefixed with the hash symbol '#'; e.g. #HurricaneSandy.

Twitter uses hashtags to categorise tweets. People can use the Twitter search function to see a list of all tweets that include a particular hashtag. The hashtag is like a filter. Hashtags can be used:

- If your tweet is related to an event or a conference; e.g. #iwa2012busan
- If your tweet is related to a disaster or a natural phenomenon; e.g. #HurricaneSandy, #TotalSolarEclipse
- to give context; e.g. #coalseamgas
- as a meme (a common idea, behaviour, or style that spreads from person to person); e.g. #TGIF, #fail, #todo.

For more advice on tweeting, consider registering for Science Media Space, a three-week online course on social media for scientists that provides tips, practice activities and feedback:

sciencemediaspace.com.au

Top tips for writing a blog

- **Make it personal** - write in the first person. The web is a one-to-one medium, so get personal and say 'you' and 'I'. Say 'you' a lot more than you say 'I'. People want to know how what you are saying is relevant to them. Use active rather than passive voice:
    - I found…
    - We have …..
- **Write meaningful, short headlines.** Try to use fewer than eight words and make the first two words 'information-carrying' (i.e., words that give a strong indication of what you are writing about). People scan from the left-hand side of the web page, so they are likely to focus on just the first couple of words of each heading they see.
- **Write less.** People rarely read all the way through a page so keep your posts short and include your key points in the top 20% of your post. Keep paragraphs and sentences short. Stick to one idea per sentence
- **Use lists, images and tables.** Where possible use lists, images and small tables to break up your text.

Top tips for writing a blog (continued)

- **Show numbers as numerals.** Write numbers as numerals, not letters (e.g. 23, not twenty-three), even when the number is the first word in a sentence or bullet point.
- **Write meaningful link text.** Ensure your text explains the links you are clicking through to.
- **Make sure each post can stand alone.** People can land on a blog post from a search engine or from a linked website. Don't assume that they have read any earlier posts (although you can link to earlier posts). You may also have to re-explain abbreviations and jargon.
- **Proof read.** People will judge you on grammar and spelling. The incorrect placement of an apostrophe, or a 'their' instead of 'there' can undermine your credibility.
- **Post regularly.** Post at least once a month, but not just for the sake of it, still make sure you have something meaningful to say.
- **Get an unbiased opinion.** If possible ask someone objective to read your post for content before you post it. Once it's out there it's difficult to completely remove and comments you might regret can be reposted elsewhere.

For more advice on blogging, consider registering for Science Media Space, a three-week online course on social media for scientists that provides tips, practice activities and feedback.

sciencemediaspace.com.au

science media space

When communicating through social media

✘ Don't just talk **at** people – aim to actively engage with them.

✔ Ask questions to encourage interaction and discussion.

✔ Interact with other pages / people (comment, share, retweet).

✔ Respond politely and respectfully to comments. Sometimes it is best to just ignore.

✔ Maintain your professionalism. Don't let your emotions rule when posting or responding to comments.

✔ Use spell check – it only takes a minute.

✔ Be consistent: check your site regularly and build a cohesive social media presence.

✘ Don't post sensitive or confidential information – if in doubt leave it out.

This tip sheet has been prepared by the Australian Science Media Centre (AusSMC). The AusSMC is an independent, not-for-profit service for journalists, working to improve links between the news media and the scientific community. We aim for a better informed society with greater access to evidence-based science. Last updated November 2013. **www.ScienceMediaSavvy.org**

Where to find more on science and the media

The **Australian Science Media Centre (AUSMC)** is a great resource for researchers and journalists. They provide media briefings and rapid roundups on issues. They can also help you get your message out to the media in an appropriate way.

http://www.smc.org.au
https://www.scimex.org

AUSMC also have a sub site called Science Media Savvy with media training materials for scientists:

http://sciencemediasavvy.org

UK Science Media Centre handouts are useful if you are dealing with contentious issues:

http://www.sciencemediacentre.org/publications/publications-for-scientists

i) "This guide is intended for use in situations where risks are perceived to be much higher than they actually are." http://www.sciencemediacentre.org/wp-content/uploads/2012/08/Risk-in-a-soundbite-2013.pdf

ii) "This is a guide for scientists preparing for a news interview about the trustworthiness of a piece of scientific research. This sort of question will often prompt an answer that refers to peer review." http://www.sciencemediacentre.org/wp-content/uploads/2012/09/Peer-Review-in-a-Nutshell.pdf

iii) "This guide offers some effective ways for scientists to talk about uncertainty in a brief news interview." http://www.sciencemediacentre.org/wp-content/uploads/2012/09/Uncertainty-2012.pdf

Other valuable media training materials

- SciDevNet
  https://www.scidev.net/global/content/practical-guides/

- Science Media Centre
  http://www.sciencemediacentre.co.nz

- Journalist Code of Ethics
  https://www.meaa.org/meaa-media/code-of-ethics/

Further reading of interest

- If you're interested in "myth busting" -- be careful about unintended consequences. Unless the message is carefully crafted, you may be reinforcing rather than debunking the myth.
  https://www.climatechangecommunication.org/debunking-handbook-2020/

- Nyhan B, Reifler J. Does correcting myths about the flu vaccine work? An experimental evaluation of the effects of corrective information. Vaccine. 2015 Jan 9;33(3):459-64. doi: 10.1016/j.vaccine.2014.11.017. Epub 2014 Dec 8. PMID: 25499651.
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- "Communicating the Science of Climate Change," by Richard C. J. Somerville and Susan Joy Hassol, from the October 2011 issue of Physics Today, page 48

https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/climate-communications/messaging-climate-change/Somerville--Hassol.-2011.-Communicating-Science-of-CC.pdf

Communicating the science of climate change

Richard C. Somerville and Susan Joy Hassol

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feature article

Communicating the science of climate change

Richard C. J. Somerville and Susan Joy Hassol

It is urgent that climate scientists improve the ways they convey their findings to a poorly informed and often indifferent public.

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Over the past half century, the powerful new science of climate and climate change has come into being. Research during that period has settled a fundamental climate question that had challenged scientists since the 19th century: Will human beings, by adding carbon dioxide and other heat-trapping gases to the atmosphere, significantly affect climate? The answer, debated for decades, is now known to be yes. Scientists now understand clearly that humankind is no longer a passive spectator at the great pageant of climate change. They have established that the climate is indeed warming and that human activities are the main cause.[1] Every year brings thousands more research papers containing new knowledge of the many aspects of climate change.

Public perception

Climate researchers know that the case for human-induced climate change has become stronger, more compelling, and increasingly urgent with each passing year. Yet in some countries, notably the US, the proportion of the public and policymakers who reject the science has grown. For example, though the evidence of global warming is unequivocal, a new study by a team from Yale and George Mason universities shows that as of May 2011, only 64% of Americans think the world is warming (down from a high of 71% percent in November 2008). And only 47% of all respondents believe that global warming, if it exists, is caused mostly by human activity.[2] A related study by the Yale–George Mason team classified the US public into "global warming's six Americas."[3] Figure 1 shows those categories and the team's most recent breakdown of the public into them. Only in the *alarmed* and *concerned* categories do majorities understand that the observed warming is caused by human activity.

Americans are also unaware of the strength of the scientific consensus. At least 97% of climate researchers most actively publishing in the field agree that climate change is occurring and that it is primarily human-induced.[4] But that strong consensus is largely unrecognized by the public. Only 39% believe that most scientists think global warming is occurring, and 40% believe there is a lot of disagreement among scientists about whether it's occurring. Even among those in the most engaged categories of figure 1, only 44% of the *alarmed* and 18% of the *concerned* say there is scientific agreement that the world is warming. Among the *disengaged*, *doubtful*, and *dismissive*, less than 5% believe there is such agreement.

Other misconceptions are rampant among Americans. For example, many people confuse climate change with the ozone hole. They incorrectly identify the ozone hole, aerosol spray cans, toxic waste, nuclear power, and the space program as causes of global warming.[5]

Why the confusion?

There are many reasons for the large-scale public confusion. (See the article by Steven Sherwood on page 39.) Acceptance of the science of climate change appears to track with the strength of the economy. In difficult times, people seem more likely to reject the science. That may be because they believe

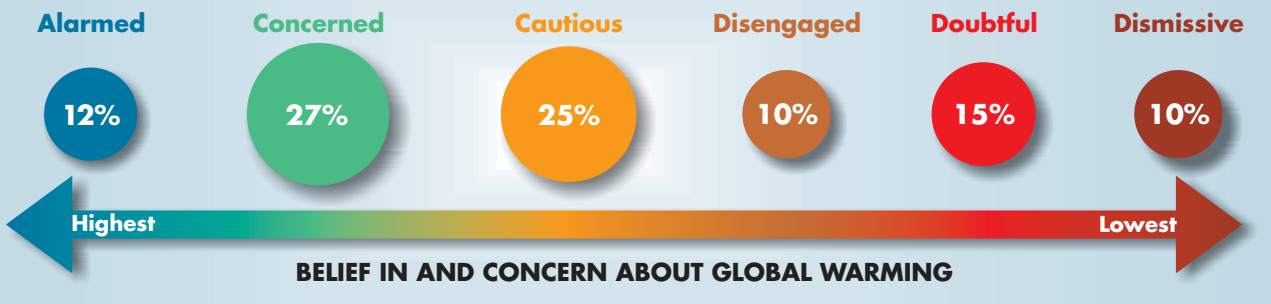

Figure 1. Global warming's six Americas in May 2011, as categorized by a 2011 public-opinion study by a team from Yale and George Mason universities.[3]

that policies for addressing the problem might harm the economy. And perhaps people can only worry about so many things at a time.

A second major factor is the well-organized and well-funded disinformation campaign that has been waged against climate science for decades. As documented in numerous books, the campaign seeks to sow doubts about the science.[6,7] Motivations for that campaign range from ideological to financial. Some fear that policies to address climate change will limit individual freedoms and the free market. Some in the oil and coal industries fear for their short-term profits. Among the purveyors of the disinformation are public-relations masters who have succeeded in crafting simple, clear messages and delivering them repeatedly. The public's failure to perceive the scientific consensus seems to reflect the success of that campaign.

It helps the disinformation campaign that a small number of climate scientists disagree with the widely accepted central findings of the field. That there are a few dissenters is not surprising; all areas of science have outliers. But the mainstream scientific conclusion that climate change is occurring and is mostly human-induced has been endorsed by professional societies and science academies worldwide.[8]

A third factor is widespread scientific illiteracy, which is related to the fact that people trust and believe those with whom they share cultural values and worldviews. Opinion leaders who espouse the notion that global warming is a hoax are, for some people, trusted messengers. A fifth factor is that for most of human history, people have seen weather as the province of God, and some simply cannot accept the idea that humans could affect it. We still call weather disasters "acts of God."

Yet another factor is the way the media handle the topic. They often portray climate change as a controversy, presenting the opposing sides as equally credible. The current crisis in journalism has also resulted in fewer experienced reporters with the requisite expertise, which leads to coverage that can be inept and misleading.

Not least important is how scientists communicate—or fail to do so. Reasons for that failure include what scientists talk about as well as how they talk about it. Narrative skills help reach people. Effective communication is usually not a lecture but a conversation that involves what people really care about. People generally care less about basic science than about how climate change will affect them and what can be done about it. Furthermore, climate change is often framed as an environmental issue, when it should more appropriately be framed as an issue threatening the economy and affecting humanity's most basic needs: food, water, safety, and security.

For all those reasons, despite remarkable scientific advances, many people still do not realize, or do not accept, what climate scientists have discovered.[6] The strong consensus in the expert community is not widely appreciated. There is a disturbingly large gulf between the research community's knowledge and the general public's perception. Recent polling data reveal that many Americans "would most like to have an expert explain how experts know that global warming is happening and is caused by human activities" (reference 3, page 6).

The IPCC

For mainstream climate scientists, the answers to those fundamental questions about the reality and causation of climate change are already well established. They are discussed and explained in detail in many reports, especially the Working Group I portion of the 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). That document assesses the physical-science foundation for our understanding of climate change. It is based on careful consideration of the entire body of relevant published research studies. Its main findings are summarized in two key statements:[1]

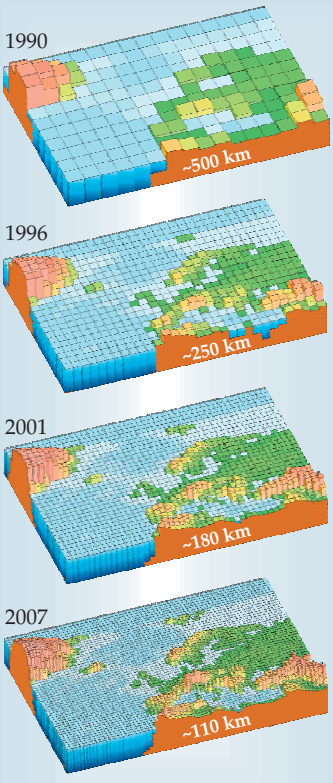

Figure 2. Improving spatial resolution of climate models used in periodic assessment reports by the Intergovernmental Panel on Climate Change from 1990 to 2007. The increasingly sharp maps extend from southern Greenland to eastern Turkey. Each map is labeled by grid size.

> Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. (page 5)

> Most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations. (page 10)

The IPCC is a link between climate change science and public policy. Its mandate is to provide policymakers with reliable and intelligible scientific information and to assess climate change science in an open and objective manner that is policy relevant but not policy prescriptive. The IPCC doesn't carry out research. It simply assesses the research performed and published by scientists throughout the world. The panel organizes large numbers of scientists to perform the assessments and write the reports. The successive IPCC reports have expressed increasing certainty that human activity is the main cause of the observed climate warming.[9]

Discovery of a few errors in the 2007 IPCC Fourth Assessment Report tarnished the reputations of both the IPCC and climate scientists. In a report of some 3000 pages, one expects some minor errors, even after extensive reviewing. The IPCC has since revised and strengthened its procedures so as to increase transparency and accountability, and to reduce the likelihood of error. The fundamental conclusions of the

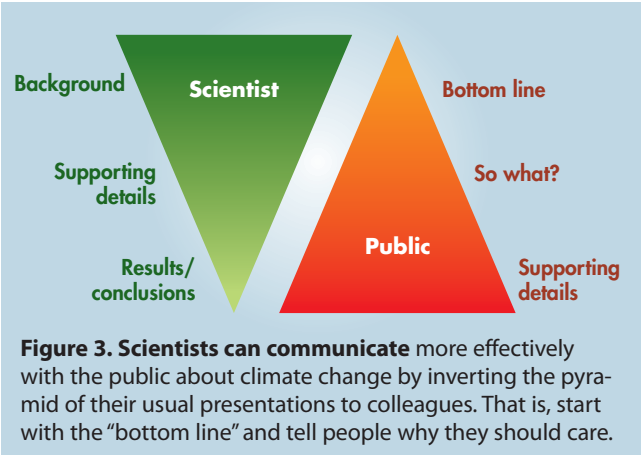

Figure 3. Scientists can communicate more effectively with the public about climate change by inverting the pyramid of their usual presentations to colleagues. That is, start with the "bottom line" and tell people why they should care.

IPCC reports are unaffected by any errors, and they remain unchallenged within the mainstream research community.

The online publication in 2009 of stolen emails written by prominent climate scientists promptly led to publicized accusations of data tampering and other wrongdoing. But numerous subsequent investigations have exonerated the accused researchers. They committed no fraud and no scientific misconduct.

These two episodes illustrate several of the factors that contribute to public confusion. The disinformation campaign seized on the incidents to skillfully and repeatedly denounce both the IPCC and climate scientists. Neither the scientists nor the panel were very effective in refuting the attacks. In the media, the initial accusations were prominently featured, but little attention was given to the trivial nature of the IPCC errors or to the outcome of the investigations that cleared the scientists. These events provide a teachable moment: They illustrate how important it is that the scientific community improve its efforts at communicating climate change science.

Climate models

Modern global climate models are essential tools for determining the cause of recent warming as well as for developing projections of future climate change.[10] A key component of the models is their ability to simulate realistically many aspects of climate. A half century of model development has led to a suite of global climate models that have become ever more comprehensive physically. Figure 2 shows improvement in their spatial resolution over the past two decades.[11]

Many kinds of observations have demonstrated that the climate is warming. Atmospheric temperatures are measured at surface sites and by networks of balloon-borne instruments and satellites. Those data all show warming. Ocean temperatures are measured from ships, satellites, buoys, and subsurface floats. All show warming. In fact, most of the heat added to the climate system in recent decades is in the ocean. Sea level is rising globally. Mass loss from glaciers, Arctic sea ice, and the ice sheets on Greenland and Antarctica also indicate a warming climate.

An entire branch of climate science, known as detection and attribution, is devoted to determining whether any particular class of observations represents a significant departure from natural variability and, if so, to identifying the cause. "Detection" here refers to the task of distinguishing changes in climate due to some external cause from changes that could be expected from known modes of natural climate variability such as El Niño and La Niña.

For changes not compatible with natural variability, "attribution" denotes the task of determining what external factor is responsible. Extensive research has shown that the dominant observed changes in the climate system are consistent with the responses expected from increasing amounts of greenhouse gases in the atmosphere. They are inconsistent with any natural external forcing mechanisms such as volcanism or changes in the Sun. The fingerprint of human activity is thus clearly revealed in the magnitude and pattern of the observed climate changes.

Another good example of recent progress in climate science is our improved understanding of the increase in sea level to be expected as Earth continues to warm. Sea levels rise in a warming world for several distinct reasons. One is simple thermal expansion of ocean water. Another is melting glaciers, and a third is the contribution from the melting of the gigantic ice sheets on Greenland and Antarctica.

The 2007 IPCC report projected a global average rise in sea level of 18–59 cm by the end of this century, depending on different models and different scenarios for greenhouse gas emissions. The report stressed that thermal expansion contributed 70–75% of the central estimates for all the scenarios. It warned that melt water from the Antarctic and Greenland ice sheets might contribute significantly to sea-level rise. But the report's quantitative projections did not include those contributions because "understanding of these effects is too limited to assess their likelihood or provide a best estimate" (reference 1, page 14).

In the years since 2007, however, climate science has advanced.[12] New technology has been brought to bear. For example, the *GRACE* (*Gravity Recovery and Climate Experiment*) satellites, launched in 2002, have used tiny variations in Earth's gravity to infer changes in the masses of the Antarctic and Greenland ice sheets. Several years of *GRACE* results and other data now show conclusively that both ice sheets are losing mass and contributing to global sea-level rise. The physical processes involved in mass loss are complex; they include surface melt, glacier flow, and snowfall. Much remains to be learned.

Greenland and Antarctica differ in important respects. But the contributions of both to sea-level rise are clearly increasing with time. If recent trends continue, their ice-sheet losses are expected to dominate global sea-level rise before the century ends. This century's sea-level rise is now estimated by some researchers to be as great as 1 to 2 meters.[12] Such conclusions must be effectively communicated to policymakers and the public.

Better communication

If wise climate policy is to be informed by the best and most up-to-date climate science, scientists have a critical role to play in communicating their findings to the wider world. But scientists are used to communicating with their peers in a certain format, beginning with background information, moving to supporting details, and finally coming to their results and conclusions. For communicating with the public, however, they must invert that pyramid and begin with the bottom line, as shown in figure 3. People also want to know why they should care—the "so what" question.

Scientists typically fail to craft simple, clear messages and repeat them often. They commonly overdo the level of detail, and people can have difficulty sorting out what is important. In short, the more you say, the less they hear. And scientists tend to speak in code. We encourage them to speak in plain language and choose their words with care (see figure 4). Many words that seem perfectly normal to scientists are incomprehensible jargon to the wider world. And there are usually simpler substitutes. Rather than "anthro-

pogenic," scientists can say "human-caused." Instead of "spatial" and "temporal," they could say "space" and "time." They could use familiar units; for the American public, that means using feet rather than meters, and Fahrenheit rather than Celsius. And they shouldn't expect a lay audience to do mental arithmetic.

Scientists often fail to put new findings into context. They tend to focus on cutting-edge research. But it's also important to repeat what is scientifically well understood to a public for whom the well-established older findings may still be mysterious. Another common mistake made by scientists is leading with what they do not know instead of what they do know. For example, they are often asked if a particular heat wave, heavy downpour, drought, wildfire, or flood was caused by climate change. Instead of repeating the common mantra that "we cannot blame any particular event on climate change," they should explain the connections: In the case of heavy downpours, they can explain that a warmer atmosphere holds more moisture, so any given storm system can produce more rain. Scientists have measured an increase in atmospheric water vapor and definitively attributed it to human-induced warming. They have also measured an increase in the amount of rain falling in the heaviest downpours, a change that climate models have long projected.

Failing to use metaphors, analogies, and points of reference to make mathematical concepts or numerical results more meaningful is another common mistake. Vivid illustrations help. For example, when reporting that the amount of melt water coming from the Greenland ice sheet in 2005 had more than doubled in just a decade to 220 km^3 per year, scientist Eric Rignot helpfully added that the entire city of Los Angeles used about one cubic kilometer of water a year for all purposes.

By failing to anticipate common misunderstandings, scientists can inadvertently reinforce them. A good example is the confusion of ozone depletion with climate change. Scientists should avoid talking about aerosols and climate in a way that reinforces this confusion. For most people, an aerosol is a spray can, which they associate with ozone depletion—even though ozone-depleting chemicals were long ago phased out of spray cans. Like "aerosol," many terms mean completely different things to scientists and the public. We've been compiling a list of such terms for years. The table at right shows some examples, along with suggestions for better alternatives for public communication.[13]

Other linguistic problems abound. We often hear the question, "Do you *believe* in global warming?" But it's not a matter of

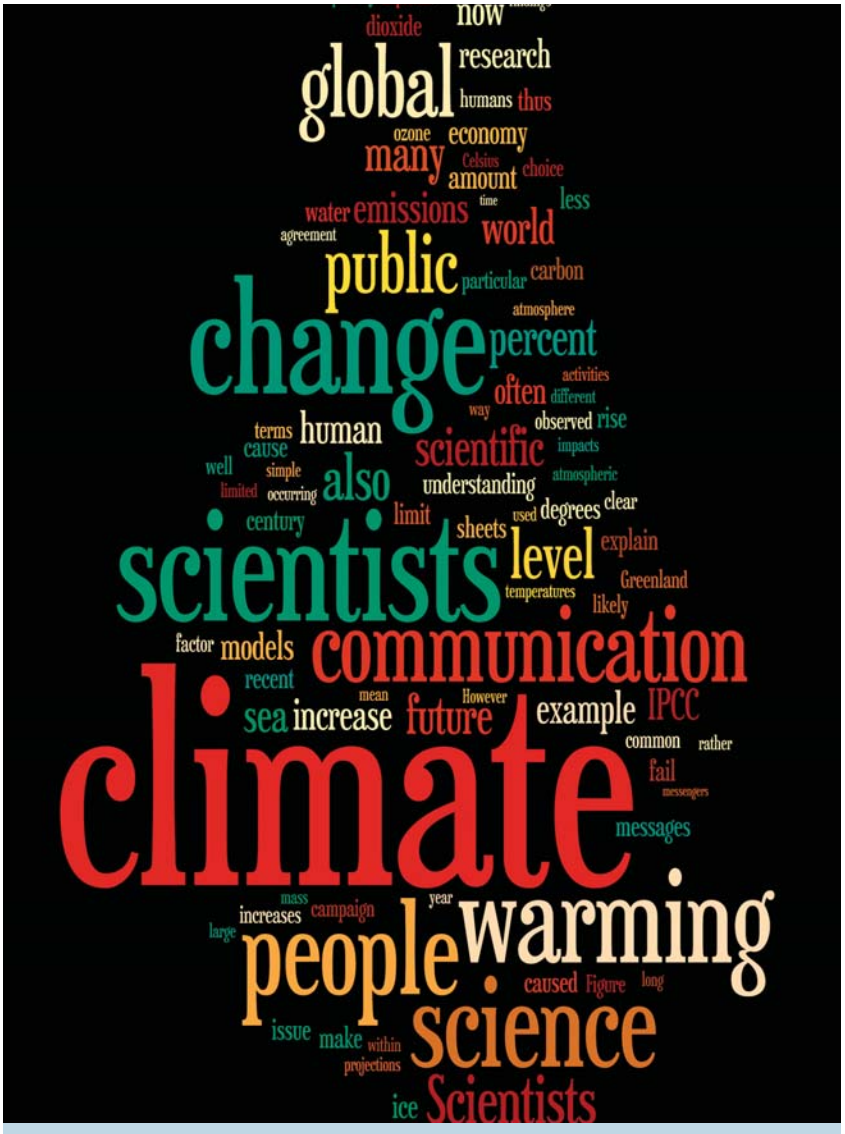

Figure 4. A "word cloud" created from words in this article.[15]

Terms that have different meanings for scientists and the public

Scientific term	Public meaning	Better choice
enhance	improve	intensify, increase
aerosol	spray can	tiny atmospheric particle
positive trend	good trend	upward trend
positive feedback	good response, praise	vicious cycle, self-reinforcing cycle
theory	hunch, speculation	scientific understanding
uncertainty	ignorance	range
error	mistake, wrong, incorrect	difference from exact true number
bias	distortion, political motive	offset from an observation
sign	indication, astrological sign	plus or minus sign
values	ethics, monetary value	numbers, quantity
manipulation	illicit tampering	scientific data processing
scheme	devious plot	systematic plan
anomaly	abnormal occurrence	change from long-term average

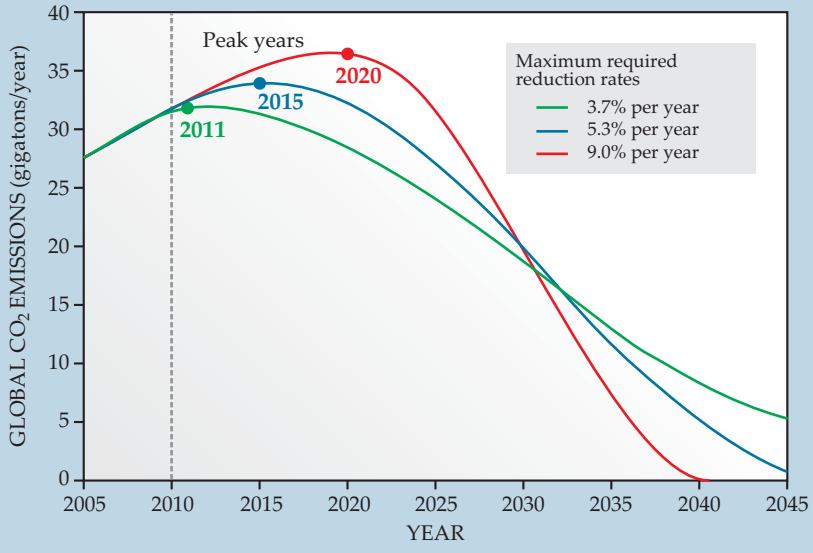

Figure 5. Three scenarios, each of which would limit the total global emission of carbon dioxide from fossil-fuel burning and industrial processes to 750 Gt over the period 2010–50. If emissions remain negligible after 2050, that limit yields an estimated 67% probability of capping global warming at 2° C above preindustrial temperatures.[12] As indicated by the color-keyed table, the later the year of peak emission, the higher would have to be the maximum rate of annual reduction, which would begin in the early 2030s. (Adapted from German Advisory Council on Global Change factsheet 2/2009.)

belief. The conclusion that the world is warming and that humans are the primary cause is based on facts and evidence. Even the term "consensus" makes some in the public conclude that global warming is just a matter of opinion. When scientists say human activity "contributes" to global warming, that sounds like it could be a small contribution, when in fact it is the primary cause. When they say that climate change is due, "at least in part," to humans, or that "natural factors alone" could not have caused the observed warming, they reinforce the misconception that humans are perhaps a small part of the problem.

When climate scientists say that warming is "inevitable," it can give the impression that nothing can be done. Of course, that's not what they're saying, but they should be careful to make clear that society faces choices. Although it is true that some additional warming cannot be avoided, the amount of future warming is still largely in our hands. Lower emissions of greenhouse gases will lead to less warming and less severe impacts.

Climate scientists have also developed a lexicon of likelihood terms (likely, very likely, and so forth) to roughly quantify the probability of particular outcomes. The overuse of such terms gives the impression that they know much less than they actually do. The public interprets those terms to imply much greater uncertainty than scientists intend to convey.[14]

Consider what your audience cares about. Talk more about the local impacts of climate change that are happening now. Connect the dots between climate change and what people are experiencing, such as increases in extreme weather. Try to craft messages that are not only simple but memorable, and repeat them often. Make more effective use of imagery, metaphor, and narrative. In short, be a better storyteller, lead with what you know, and let your passion show. Such communication skills can be taught, developed, and practiced. Make use of more effective outreach strategies such as partnering with other messengers and connecting with audiences on values you share with them.

Deciding the future climate

The urgency of taking action to limit manmade climate change combines subjective considerations with scientific ones. That's not widely appreciated, though the relevant science is quite clear. The science tells us that once a political decision is taken to limit global warming to some specified level, meeting that goal requires that the total manmade emission of CO_2, integrated over time from the Industrial Revolution to the foreseeable future, must be correspondingly limited. This conclusion follows from the long atmospheric residence time of CO_2 and the fact that the level of warming depends on the total amount of heat-trapping gases in the atmosphere. So, unless practical means are found to remove large amounts of CO_2 from the atmosphere, annual emissions must eventually go virtually to zero because the integrated total is limited to a specific finite amount.

That maximum amount, for a given temperature ceiling, can now be estimated from our knowledge of the sensitivity of climate to atmospheric CO_2. The longer we wait to begin decreasing emissions, the faster the rate of decrease must be. That's the message of figure 5, which shows several possible scenarios for limiting global warming to an average of 2 °C above preindustrial temperatures.[12]

Governments can decide what level of climate change they regard as tolerable. That choice can be informed by science, but it will also be affected by risk tolerance, values, politics, priorities, and economics. In the end, it is a choice that humanity as a whole, acting through governments, has to make.

The choice that has thus far received the most support is to limit global warming to 2 °C. That target has been formally adopted by the European Union and supported by many other countries. Some recent research suggests that severe climate change, including very large sea-level rises, can occur even with a 2 °C ceiling. But that topic is beyond the scope of this article.

If governments agree on the 2 °C rise as a tolerable upper limit, what does climate science have to say about the steps that will be required to keep climate change within that limit? The conclusions illustrated in figure 5 show that in order to have a reasonable likelihood of meeting the 2 °C target, global CO_2 emissions must peak and then start falling rapidly within the next 5–10 years, approaching zero by midcentury. The urgency is not ideological; it's dictated by the physics and geochemistry of the climate system.

The science tells us that meeting the policy goals requires urgent action. But given the limited public understanding, the need for scientists to communicate better also becomes urgent. Many scientists have expressed interest in communi-

cating climate change science. Workshops aimed at improving those communication skills are increasingly popular at professional-society meetings and other venues.

We must find ways to help the public realize that not acting is also making a choice, one that commits future generations to serious impacts. Messages that may invoke fear or dismay—as projections of future climate under business-as-usual scenarios often do—are better received if they also include hopeful components. Thus we can improve the chances that the public will hear and accept the science if we include positive messages about our ability to solve the problem. We can explain, for example, that it's not too late to avoid the worst; lower emissions will mean reduced climate change and less severe impacts. We can point out that addressing climate change wisely will yield benefits to the economy and the quality of life. We can explain, as figure 5 shows, that acting sooner would be less disruptive than acting later. Let us rise to the challenge of helping the public understand that science can illuminate the choices we face.

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CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

KNOWLEDGE TRANSLATION

19th August 2022 • 12:30pm – 1:30pm with a live Q and A

Ensuring that research findings are translated into practice involves a systematic approach from the beginning when you are designing your research. Implementation science bridges the gap between developing and evaluating effective interventions and implementation and deimplementation in routine practice.

This seminar covers key elements of implement-ation research; theoretical approaches, research designs, involvement of stakeholders, behaviour change interventions.

Perth Children's Hospital

Our seminars are usually presented live from the PCH Auditorium and streamed in real-time via Avaya Workplace or to our video-hosting locations.

Due to speaker unavailability, the 2021 version of this seminar will be streamed.

We are happy to confirm that our speaker will join us for a live Q and A session.

Register today for the direct link.

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

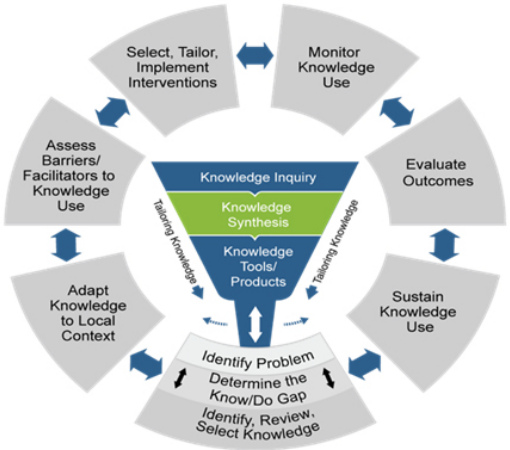
Microsoft Teams

About the Presenter

Associate Professor Fenella Gill

Acute Paediatrics at Perth Children's Hospital and the School of Nursing, Curtin University.

Fenella's PhD work resulted in national practice standards for critical care nurse education, incorporating the views of stakeholders including health consumers. Fenella has been awarded two post-doctoral fellowships in Research Translation (NHMRC TRIP & WAHTN) and she leads implementation research focused on children's acute care in hospital.



http://www.jcehp.com/vol26/2601graham2006.pdf

Contact Us

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Government of **Western Australia**
Child and Adolescent Health Service

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ORAL PRESENTATION of RESEARCH RESULTS

26th August 2022 • 12:30pm – 1:30pm

Perth Children's Hospital Auditorium

Effective presentation of research results is a key component of research translation, a moral responsibility to undertake for your research participants, funders and institution, and an opportunity to get important feedback.

This seminar includes a range of tips on choosing and organising materials, delivery styles and techniques, preparing for questions, gaining confidence, and how to run a session effectively.

Perth Children's Hospital

Level 5, 15 Hospital Ave Nedlands

Accessible via pink or yellow lifts

- OR -

Access online via Avaya Workplace

- OR -

Watch live
from a hosted video-conferencing site

- Fiona Stanley Hospital
- Lions Eye Institute
- Royal Perth Hospital

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About the Presenter

Dr Jane Mugure Githae

Mugure joins us from Kenya where she practiced as a General Surgeon and Honorary Lecturer in General Surgery.

She has experience in clinical research, clinical audits and medical education. She is keen to simplify the process of integrating day-to-day clinical work with research

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2022 Seminar Schedule

Interactive in pdf format
Last updated 09/08/22

	DATE	TOPIC	PRESENTER	ENROL	WATCH
1	04 Feb	**Research Fundamentals**	A/Prof Sue Skull	-	2021
2	18 Feb	**Scientific Writing**	A/Prof Sue Skull	-	2021
3	11 Mar	**Introduction to Good Clinical Practice**	Natalie Barber	-	2021
4	18 Mar	**Research Governance**	Katherine Coltrona	-	2022
5	25 Mar	**Project Management**	Tara McLaren	-	2022
6	08 Apr	**Rapid Critical Appraisal of Scientific Literature**	Dr Natalie Strobel	-	2022
7	29 Apr	**Using Social Media in Research**	Dr Kenneth Lee	-	2022
8	06 May	**REDCap for Data Capture and Management**	Ali Hollingsworth & Rakshya Khadka	-	2021
9	20 May	**Survey Design & Techniques**	Q and A - Dr Jane Mugure Githae	-	2021
10	27 May	**Getting the most out of Research Supervision**	Prof Jonathan Carapetis AM	-	2022
11	10 Jun	**Conducting Systematic Reviews**	Prof Sonya Girdler	-	2022
12	17 Jun	**Introductory Biostatistics**	Michael Dymock	-	2022
13	24 Jun	**Sample Size Calculations**	Michael Dymock	-	2022
14	29 Jul	**Consumer & Community Involvement in Research**	Belinda Frank	-	2022
15	05 Aug	**Data Collection and Management**	Dr Jane Mugure Githae	-	2022
16	12 Aug	**Media and Communications in Research**	Elizabeth Chester	-	2022
17	19 Aug	**Knowledge Translation**	A/Prof Fenella Gill	REGISTER	2021
18	26 Aug	**Oral Presentation of Research Results**	Dr Jane Mugure Githae	REGISTER	2021
19	16 Sep	**Involving Aboriginal Communities in Research**	Glenn Pearson, Dr Brad Farrant, Cheryl Bridge	REGISTER	2021
20	21 Oct	**Grant Applications and Finding Funding**	Tegan McNab	REGISTER	2021
21	28 Oct	**Statistical Tips for Interpreting Scientific Claims**	Michael Dymock	REGISTER	2021
22	04 Nov	**Innovation and Commercialisation**	Ashley Schoof	REGISTER	2021
23	11 Nov	**Research Impact**	TBC	REGISTER	2021
W1	16 Aug	**Navigating Research Ethics and Governance**	Helen Hughes & Lesley Banfield	REGISTER	2020
24	25 Nov	**Qualitative Research Methods**	Dr Shirley McGough	REGISTER	2021

* W = interactive workshop

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Seminars are held from 12:30-1:30pm at Perth Children's Hospital Auditorium and are broadcast live online through Avaya. Seminars are recorded and uploaded to our website within a week of presentation. Topics are subject to change with appropriate email notice provided. Handouts are revised and updated regularly. Attendance certificates are available on request.

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Media and Communications in Research

Thank you for your interest in this seminar

Please complete this 1-minute evaluation.
Your feedback will help guide future presentations and educational activities.

How did you attend the seminar?

- ○ Live seminar at Perth Children's Hospital
- ○ Hosted video-conference on-site (e.g. FSH, Lions Eye, RPH etc.)
- ○ Online via Scopia
- ○ Viewed online recording

Please rate your agreement with the following statements:

	N/A	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
The aims and objectives were clear	○	○	○	○	○	○
The session was well structured	○	○	○	○	○	○
Presentation style retained my interest	○	○	○	○	○	○
The speaker communicated clearly	○	○	○	○	○	○
The material extended my knowledge	○	○	○	○	○	○
The additional resources were helpful	○	○	○	○	○	○

What were the best aspects of the seminar?

What changes or improvements would you suggest?

How did you hear about the seminar?
(you can select multiple answer)

- ☐ Email invitation from Research Education Program
- ☐ CAHS Newsletters e.g. The Headlines, The View, CAHS Research Newsletter
- ☐ "Health Happenings" E-News
- ☐ Healthpoint Intranet Upcoming Events
- ☐ Collegiate lounge screen or other posted promotional material
- ☐ Telethon Kids Institute screen or other posted promotional material
- ☐ Telethon Kids Institute Newsletter
- ☐ Other

Thank you!

cahs.health.wa.gov.au/ResearchEducationProgram