

A horizontal teal bar on the left side of the page, containing a white circular icon with a smaller teal circle inside.

How to tell a story using statistics



Crown copyright ©

This work is licensed under the [Creative Commons Attribution 3.0 New Zealand](#) licence. You are free to copy, distribute, and adapt the work, as long as you attribute the work to Statistics NZ and abide by the other licence terms. Please note you may not use any departmental or governmental emblem, logo, or coat of arms in any way that infringes any provision of the [Flags, Emblems, and Names Protection Act 1981](#). Use the wording 'Statistics New Zealand' in your attribution, not the Statistics NZ logo.

Liability

While all care and diligence has been used in processing, analysing, and extracting data and information in this publication, Statistics New Zealand gives no warranty it is error free and will not be liable for any loss or damage suffered by the use directly, or indirectly, of the information in this publication.

Citation

Statistics New Zealand (2012). *How to tell a story using statistics*. Wellington: Statistics New Zealand

Published in April 2012 by

Statistics New Zealand
Tatauranga Aotearoa
Wellington, New Zealand

Contact

Statistics New Zealand Information Centre: info@stats.govt.nz
Phone toll-free 0508 525 525
Phone international +64 4 931 4610
www.stats.govt.nz



Preface

Our statistics reveal information about many aspects of life in New Zealand. They have a wide range of uses for a wide range of people, so it's essential we communicate the messages in them well.

How to tell a story using statistics will help you to write about your statistical findings in a way that your readers can connect with. You'll learn how to catch readers' attention and keep them reading, how to help them visualise the numbers, and how to provide context that gives your story depth and meaning.

Telling stories helps us share our information better and show why it's important. Through storytelling we contribute to creating an informed society using official statistics, which in turn leads to greater prosperity, security, and opportunity for all New Zealanders.



Geoff Bascand
Government Statistician



Contents

1 Why we tell stories	5
What are statistical stories?	5
Key principles of effective statistical stories	5
2 How to write an effective statistical story	6
Identify your audience	6
Identify a storyline	6
Write an eye-catching headline or document title	7
Put the most interesting information first	7
Keep your readers' attention	8
Be selective	8
Use plenty of descriptive subheadings	9
Choose your language carefully	9
Support the story with visuals	10
Use numbers sparingly	10
Use words to help readers visualise the numbers	11
Provide context for the numbers	12
Make your story media friendly	13
3 Connecting with Māori audiences	14
Our commitment to Māori	14
Barriers we need to overcome	14
Key Māori audiences	14
How do our statistics relate to Māori?	15
How to increase Māori access to information	16
4 Examples of statistical stories	17
Everyday life in New Zealand	17
Specific societal groups (eg focus on age, sex, ethnicity)	18
Time of year, holidays, or memorial days	19
Focus on specific commodities	20
Current events	20
References	22
Appendix: Get your stories published	23
Contact the publishing team	23
Apply the correct styles, standards, and templates	23
Get help with Sitecore	23



1 Why we tell stories

Telling stories allows us to better share our information with the people who can use it. This guide will help you to write about your statistical findings in a way your readers can connect with. Use it when preparing media releases, information releases, articles, reports, conference papers, or research papers.

Stories are how we make sense of the world, it is how we learn and it is what we remember. Stories have the ability to not only help people understand what we are saying but they also allow people to remember what we have said and retell others without losing its meaning. (Grayzel, 2011)

What are statistical stories?

Statistical stories are those that make numbers meaningful and memorable by translating data into terms that make sense to a wide range of people. They do this by:

- catching readers' attention
- focusing on a storyline
- putting the statistics into context
- revealing the meaning behind the numbers
- showing how the story is important to people's lives
- using graphics, comparisons, analogies, and examples to help readers visualise the numbers
- using clear, concise, engaging language.

On their own, statistics are just numbers... To mean anything, their value to the person in the street must be brought to life. (United Nations Economic Commission for Europe, 2005, p1)

Key principles of effective statistical stories

To tell our stories effectively, we need to follow some key principles. We need to ensure our stories are:

Accessible

The more accessible our information is, the easier it is for people to use. Our stories need to be engaging and present information in a way that's easy to understand. Our stories need to be tailored to their audience, focused on key messages, and written in clear, concise language with graphics or concrete examples that illustrate what the numbers mean.

Relevant

Our stories must show New Zealanders what our statistics reveal about them and their lives. When people see how a story is relevant to them, they are more likely to care about it, use it, and share it. Statistical stories must be timely and topical. They need to provide depth and context to life in New Zealand, and give policymakers the information they need to make decisions that affect us all.

Trustworthy

Users must have trust and confidence in our statistics. We need to be impartial, avoid ambiguity and conjecture, and always be statistically accurate. Ensuring our messages are not misinterpreted is crucial to our credibility. At times this may seem to limit how we can express things, but striving for clarity and transparency can make for a better story.



2 How to write an effective statistical story

Before you begin your story, identify your audience and a storyline that will be of relevance and interest to them. Then aim to catch your readers' attention with a great headline, and follow that with a lead sentence that draws them in. You'll need to decide how much information to include and what to leave out, and structure your story so that the most interesting points come right at the beginning.

Use numbers sparingly throughout the text. Help readers visualise them by making comparisons to things they're familiar with, and include graphs or other visuals. Use plenty of descriptive headings to break your text into easily digestible chunks and make sure you write in clear, concise, plain English. Remember to provide context to help readers understand the bigger picture.

Let's look at the elements of a good story one by one.

Identify your audience

The statistics we produce are useful to a variety of audiences, including central and local government, Māori, media, businesses, researchers, educational institutions, community groups, and the wider public.

User research has helped us to tailor our products to better meet the needs of the people who use them. For example, the commentary of an information release is aimed at novice data users, whereas the data quality section is written for savvy data users. While both are written in plain English, the data quality section will include specialist terminology, methodology, and concepts that aren't necessary in the commentary.

For more information, see:

- [Think about your reader before you write](#) (to identify who you're writing for)
- [Your guide to our Audience Model](#) (for how to engage with different types of users)
- [Statistics New Zealand's products](#) (to identify the audience for different products)
- chapter 3 of this guide (for information about reaching Māori audiences).

Identify a storyline

A good story is focused and draws together information and statistics to answer one question or enlighten one issue, rather than being a collection of largely unrelated facts. (Bill Boddington, Senior Research Statistician, Social and Population Statistics, Statistics NZ, 2011)

The easiest way to get people reading about statistics is to draw them in with a story they can relate to personally. Try to identify the most interesting, relevant, or topical aspect of your findings and focus on that. It may not be what you think is the most significant finding.

You could try writing your story using one of the following themes:

- everyday life in New Zealand
- specific societal groups (eg focus on age, sex, ethnicity)
- time of year, holidays, or memorial days
- focus on specific commodities (eg tomatoes or timber)
- current events.

See chapter 4 for examples of statistical stories written around these themes.

It must be a story supported by statistical evidence, not a set of statistical facts with a story strung around them. The story needs to be 'of public interest' – it can be topical or quirky, but needs to be relevant to the intended audience. (Paul Brown, Principal Statistician, Social and Population Statistics, Statistics NZ, 2011)

Write an eye-catching headline or document title

You may think of a brilliant headline or title before you start writing your story, but often it's best to craft some content before deciding on one. Your story may change as you write and refine your material, and therefore your headline or title will too.

For some readers the title will be all they need to get the information they want, so make sure it tells them the main message. It should clearly indicate the content of the story, contain keywords, and be as descriptive as possible.

The majority of our work is published on the Internet. People find information online by searching, and headlines and titles are used as metadata to aid those searches. Therefore, they must be descriptive enough to lead people directly to the information they are looking for – our information. For this reason, generally avoid puns and clever wordplay.

Headlines and titles are also used as links on other pages of our website, and sometimes recycled on other websites, so they must make sense on their own, without their supporting story.

See [Writing for the web](#) for more information on writing headlines.

Put the most interesting information first

Once you've identified a good storyline, it should be easy to start with the related information that your readers will find interesting. Remember that the most significant statistic won't necessarily be what attracts them, but the story behind it may.

When you've chosen the interesting point you're going to lead with, make sure you cover all the basic information about it. Think like a journalist by answering some or all of the '6Ws'.

- Who was involved?
- What happened?
- When did it happen?
- Where did it happen?
- Why did it happen?
- How did it happen?

After you've jotted all this down (as much as you can, depending on what's relevant to your topic) use it to craft your lead sentence and first paragraph. It's worth spending time on the lead sentence as this is your main chance to draw your readers in. Make it engaging, and concisely summarise the main point of the story. However, don't jam too much into this sentence – 15 to 20 words is ideal. Use the rest of the first paragraph to expand on the lead sentence, making sure to include any relevant 6Ws information you haven't already used.

For more detailed information and examples, see our [Article content guidelines](#).

Keep your readers' attention

Once you've drawn the reader in, give them the essence of the story as quickly as possible. This means summarising your most interesting findings and conclusions near the start, and letting less essential information follow. Remember that people can stop reading at any time, so don't put them off by burying the point of the story deep down, or by starting with background information or methodology.

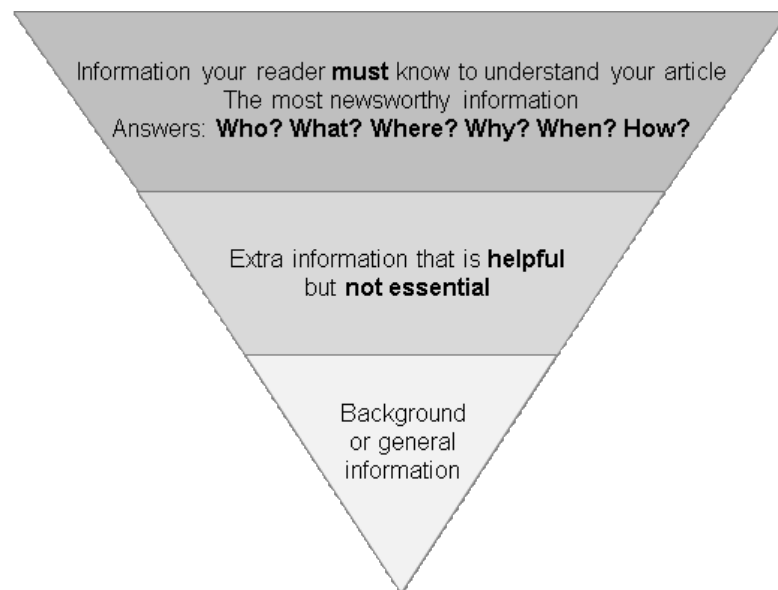
Here's an example of a media release that **doesn't** put its findings first.

[Grass roots opinion can help to create a better life for us all](#)

The headline is interesting, but you have to read to the bottom of the release to find the point of the story and support for the headline. The introductory information (what was done and how it was achieved) is important too, but it doesn't need to go at the beginning, where it gets in the way of the main message.

Think about how you read a newspaper. Few of us have time to read many articles all the way through, but we can suck up a huge amount of information by scanning the first few paragraphs of each. Aim to make your story just as accessible. Follow the journalist's inverted pyramid format (even if you hope people will read right to the end).

The inverted pyramid structure



Remember that 'putting the best first' doesn't just work for the story as a whole; it also works for each chapter, section, and paragraph within your story.

For more information on structuring long documents, see [Report content guidelines](#).

Be selective

Writers can feel compelled to include all the information they have in their writing, so readers get the complete picture. However, too much information can be intimidating. If you cram too much into your writing, you run the risk of overwhelming people and losing their attention.

The effectiveness of the story relies on that fine balance between too little and too much. (Few, 2009, p3)

It can be hard work deciding what to leave out. Try to think of it as focusing on the key messages, rather than as eliminating information.

If you struggle with this process or have trouble starting your story, try making a list of the key points you need to cover. Then, when you've finished writing your story, compare each paragraph with the points on the list. If a paragraph doesn't directly support one of the key points, maybe you could remove it.

Use plenty of descriptive subheadings

Once you have your readers' attention, keep them interested by breaking up your story into 'bites' of information. Use frequent descriptive subheadings so the reader can scan for the information they want to read. Steer clear of subheadings that simply label the subject of the text.

Weak: South Island region

Better: Number of cows in South Island hits highest level for over a decade

Avoid 'elevator statistics' in your headings (things are up, things are down). Include active verbs instead.

Weak: Milk prices up, bread prices down

Better: Milk prices continue to soar while bread prices fall

Verbs you could use to improve your headings

Get bigger	Get smaller	Go back	Go forward	Stay the same	Influence	Show
rise	fall	rebound	progress	continue	drive	reveal
increase	decrease	return	advance	maintain	lift	explain
swell	contract	revert	evolve	withstand	boost	clarify
expand	decline	revisit	surge	persist	guide	record
grow	narrow	recover	flow	sustain	transform	expose
multiply	reduce	rally	develop	endure	lead	display
escalate	shrink	relapse	improve	prevail	alter	describe

Don't be afraid to use a thesaurus to find a more descriptive verb than the first one that springs to mind.

For an example of a long document that uses frequent descriptive subheadings, see [Childcare use and work arrangements in 1998 and 2009](#).

Choose your language carefully

If you can tell your story using simple words and images that can be understood by everyone, why use big words and overly complex graphs? (Few, 2009, p5-6)

Use plain English

Use short sentences and paragraphs, explain technical terms, and avoid jargon. Even if you're writing for a technical audience, there's no reason to make your writing more complex. You want your messages to be understood, so describe things as clearly as possible. See [Your guide to our Plain English Standard](#) for help with this.

Often, the simple clear techniques used to reach a wide audience are warmly welcomed by even the most specialized audience. (United Nations Economic Commission for Europe, 2009, p2)

Write for the web

Our main dissemination channel is the web, so all our stories should read well on-screen. Web readers scan titles, subheadings, links, the top of the page, and the beginnings of paragraphs to get information quickly.

On the average web page, users have time to read at most 28 percent of the words during an average visit; 20 percent is more likely. (Nielsen, 2008)

Make your story easy to absorb by keeping sentences and paragraphs short, using bullet points and plenty of descriptive subheadings, and always putting your most important information first.

See [Writing for the web](#) for links to more information.

Choose convincing quotes

Quotes help to put a human face to our statistics. It's tempting to simply choose the most important sentence from a story and put quote marks around it, but this rarely works well. We want to read spoken words. Use personal pronouns and contractions when quoting, as we do when we're talking, and don't try to make the quote say too much.

Here's a good example, from *Electronic Card Transactions: September 2011*.

"What we're seeing is that core retail transactions are still on an upwards trend, but that growth has slowed since April," said Mrs Holmes-Oliver.

Support the story with visuals

According to the old proverb, a picture is worth a thousand words. You can let graphs, maps, and infographics do a lot of the talking in your story.

Visuals are especially useful for illustrating comparisons and trends, and any concepts that are difficult to describe in words. Make sure you place graphics near any text that explains what they show.

See [Bigger, safer, better: tracking retail and quality adjusted new car prices in the CPI](#) for an example of an article that uses an infographic to illustrate the text.

Please remember to use our [Guidelines for Statistical Graphics](#) and [Guidelines for Data Visualisation](#) when creating your visuals.

Use numbers sparingly

A story is much more than a presentation of data. If you find you're listing too many numbers, you may need to focus more on explaining what they show. Sentences and paragraphs packed with numbers are difficult to read, and this makes it hard to visualise what the statistics mean.

It's easier for the reader to compare numbers when they're presented next to each other. Graphs are our number one tool for this, but bullet lists are also useful if you must present a lot of numbers at once.

Difficult to read

The number of sheep in New Zealand increased 1.2 percent in 2009 and 1.4 percent in 2010, following two years of decreases. The number of sheep decreased 1.5 percent in 2007 and 0.45 percent in 2008.

Easier to read

The number of sheep in New Zealand increased in both of the last two years, following two years of decreases. Percentage changes for these years were:

- 2010 – up 1.4 percent
- 2009 – up 1.2 percent
- 2008 – down 0.45 percent
- 2007 – down 1.5 percent.

Use words to help readers visualise the numbers

We can use words to illustrate statistics in the same way that we use graphs.

Large numbers can be difficult to visualise, especially if people aren't familiar with the unit of measurement. Making comparisons with everyday things can help put numbers into perspective. Look at the three examples below. Follow the links to see them in their original context.

[Wet enough in 2010 to fill 10 Lake Taupos](#)

Excerpt

In 2010, over 613,000 gigalitres (one gigalitre is one billion litres) of precipitation fell on New Zealand, enough to fill Lake Taupo 10 times over.

[Energy use information for industrial and trade sectors](#)

Excerpt

The total energy used by the industrial and trade sectors in 2009 was 287,000 terajoules, Statistics New Zealand said today. "That would make it roughly equivalent to the total energy that would be used if every person in the country kept a light bulb on for 23 years straight," energy statistics manager Gary Dunnet said.

[The teaspoon and the bucket](#)

Excerpt

Let's say we were to visualise that 350 tonnes that has spilled from *Rena* thus far, as one teaspoonful of oil. Then the entire oil cargo of *Rena* is equivalent to 5 teaspoons (1,700 tonnes or two million litres). Maritime NZ purportedly have capacity to deal with 3,500 tonnes or 10 teaspoons.

The infamous *Exxon Valdez* oil tanker spilled around 100 million litres of oil in 1989 which would be the equivalent of 250 teaspoons.

And finally the US Gulf of Mexico deep sea oil disaster last year spilled 780 million litres. That would comparatively fill an entire 10 litre bucket with oil.

Data has to be personal or household relevant, not just straight numbers. For example you can't [just] say New Zealand uses 10,000 tonnes of natural gas – you [also] have to say it supplies 30,000 households. (Ron Mair, Information Centre, Statistics NZ, 2011)

Provide context for the numbers

Numbers alone – even those that measure something perceived as important – are meaningless unless we present them in context. (Few, 2009, p5)

Context helps to show readers why your story is important. There's little point telling them that apples now cost \$6.00 a kilo if you don't also let them know that last month they cost just \$3.50 a kilo.

As well as showing how the numbers unfold **over time**, you can reveal the **cause** of short-term changes (eg apple prices rose sharply last month because of severe hailstorms that damaged crops).

You can also show how **changing habits or societal norms** affect long-term trends (eg Kiwis eat fewer apples now than in 1950, when apple pie and ice cream was New Zealand's most popular dessert).

Including **similar, related, or contrasting information** also helps to give your story depth (eg banana prices continue to rise, driven mainly by more people buying fair trade brands). You might draw on information from other Statistics NZ releases, if appropriate.

Follow the two links below to see how context is used to create complete stories. The excerpts shown here illustrate the different context given in each story.

[Travel and Migration to and from India: 1990 – 2010](#)

Uses related information about UK to put India's migration figures into perspective

Excerpt

India is an increasingly important source of migrants to New Zealand. In the December 2010 year, India had the highest net inflow of migrants to New Zealand (6,300), more than the inflow from the United Kingdom (5,300), New Zealand's traditional source country.

Illustrates how changing societal habits have affected migration trends

The rapid growth of the India-born population in New Zealand has resulted in more short-term trips to and from India, as people visit friends and relatives in both countries. Holiday trips are also on the rise as India's wealth increases and its people travel more.

[Fifty years of television in New Zealand](#)

Excerpt

Watching television has been a part of New Zealanders' lives for five decades ...

Reveals how the figures unfold over time, and how availability of products and habits of consumers have changed

New Zealanders have gone from watching one channel on black and white 'consolettes' that cost about \$4,500 in today's terms, to watching an array of free-to-air and pay channels today on flat-panel colour television sets that cost an average of \$1,500 ...

Because television sets were relatively expensive at the time, many households chose to hire one rather than buy and the CPI tracked those costs. In 1971, the average charge for hiring a television set for two years was \$244. This is equivalent to about \$3,100 in today's terms, a significant outlay for many households.

Statistical storytelling may be regarded as an extended form of statistical analysis ... A good analysis points out to the reader what is important, it compares figures and points out differences, trends and tendencies, it puts the results into a context, it explains the unexpected. (Statistics Norway, 2002, p1)

Make your story media friendly

The media help to spread our information widely. When our stories are heard, read, or seen around the country, they demonstrate the importance of what we do. This shows our respondents the value of providing us with their data.

If you've chosen a good storyline and crafted it using the elements in this guide, you've increased the likelihood that a busy journalist will notice your story. A clear, well-written story means that journalists:

- are more likely to read it
- can easily pick out sections that will appeal to their audience
- may use statistics to support or expand other current stories
- can rewrite stories for their own publication without distorting our messages
- are less likely to misinterpret our statistics.

The most popular story items [requested] are twofold: local (specific geographical) compared with national data; and headline followers (eg some current media topic requires statistical expansion or proof/evidence). (Ron Mair, Information Centre, Statistics NZ, 2011)

Let's look at how the media have picked up and expanded some of our stories.

Local information

These two articles were originally placed side-by-side in the *Dominion Post* newspaper: [Young and old share coast of contrast](#) and [No place like home for Porirua family](#)

The statistics were drawn from [Subnational Population Estimates: At 30 June 2011](#). By clearly highlighting contrasting data from neighbouring territorial authority areas, this release helped the journalist(s) pick out something of local interest. They then interviewed a local family to add a personal element to what the numbers tell us.

Headline followers

[NZ visitor data 'no surprise'](#)

This article on the Otago Daily Times website used statistics from the Accommodation Survey to confirm what tourism operators had expected: that a whole range of factors had affected the number of tourists visiting South Island areas.

By clearly highlighting the effect of the Rugby World Cup and the Canterbury earthquakes, this media release, [Rugby World Cup lifts international guest nights](#), made it easy for the journalist to craft their own story.

Sometimes the statistical data (the facts) may refute what someone is trying to say about a particular issue, population group etc. This can increase the amount of interest in the statistical story that's being told. (Angela Fabian, Census Statistics, Statistics NZ, 2011)

When you choose your storyline, keep in mind the sort of things that might appeal to journalists. For more information on how to make your content media friendly, see [How to write a media release](#).

3 Connecting with Māori audiences

This chapter shows you who our key Māori audiences are, and what sort of statistical information they may find useful. It will get you thinking about what to highlight in your stories, and where to look for more ideas.

Our commitment to Māori

Statistics NZ is committed to achieving a statistical system that works for Māori, as detailed in the [Māori Effectiveness Strategy](#). The [Māori Stakeholder Engagement Strategy](#) gives priority to key Māori groups. By focusing on these key groups and working to meet their information needs, we can take steps along the path to fulfilling our commitment to Māori.

Barriers we need to overcome

Findings from internal research for the Statistics NZ Audience Model suggest many Māori don't want to use statistics because the statistics only seem to put them down. Further, the [Use and Trust in Official Statistics Survey](#) (Statistics NZ, 2010, p10) found that:

- Māori are less trusting of Statistics NZ when it comes to the belief that Statistics NZ keeps information supplied to them confidential
- Māori are more sceptical than non-Māori that statistics from Statistics NZ are free from political interference
- Māori users have less trust in statistics published by Statistics NZ than do non-Māori.

To overcome these barriers, we need to demonstrate the relevance and usefulness of our information and how it can contribute to positive outcomes. Māori culture has a long and rich storytelling tradition, so stories give us a way to connect, share, and build trust.

Key Māori audiences

So who are our key Māori audiences? The key groups are as follows.

Iwi or hapū engaged in pre- or post-Treaty of Waitangi settlements

This group has more than 40 iwi or hapū and includes 16 groups who are finalising agreements in principle and 18 groups close to agreeing deeds of settlement (at March 2012). The dollar value of settlements paid will support these groups, which have the potential to make a significant contribution to the economic growth in New Zealand.

Iwi who are developing statistical capability

This group includes Tainui and Ngāi Tahu and is considered a priority for Statistics NZ because of the specialist statistical capability they are developing.

Māori researchers and/or deliverers of wānanga-based statistical training

This group are high-end users of statistical data. The training providers have been identified as a significant group that may deliver statistical education programmes.

Māori urban authority service providers

Māori urban authorities are multi-tribal organisations. Collectively, these authorities deliver a diverse range of economic, social, health, and community development services for urban Māori. They employ staff from many professions including broadcasting, justice, health, and education, with specialists in policy analysis, banking, information technology, and property development.

The National Urban Māori Authority (NUMA) is the parent body for five different authorities. NUMA is represented on national boards including the Māori Nursing Council, Māori broadcasting, Māori Rugby League, Māori Women's Welfare League, and the National Parole Board.

Official Statistics System partners with Māori advisory units, and key leaders of government or political opinion

These groups and individuals help to make sure decisions made across the Official Statistics System are well informed and responsive to Māori statistical needs and interests.

Potential users of statistics (eg community groups)

These groups have an immediate need for statistical information. For example, by accessing and using our statistics, they could better target their services or back-up an application or proposal.

How do our statistics relate to Māori?

Here are 13 questions to prompt your thinking about reaching these Māori audiences.

1. Do your statistics include any information about Māori? Could this be interesting, relevant, or useful to Māori audiences? If so, make sure you include it in your story.
2. Are there any **positive** statistics you could highlight?
3. What's topical – what's being talked about in Māori media? For example:
 - [Māori Television](#)
 - [iwi radio stations](#)
 - [Mana magazine](#)
4. What data might be helpful to iwi and hapū before Treaty settlement? For example:
 - [Ngāti Mutunga o Wharekauri](#)
 - [Ngai Tūhoe](#)
5. What data might be relevant to iwi and hapū after Treaty settlement? For example:
 - [Waikato-Tainui Te Kauhanganui Incorporated](#)
 - [Ngāi Tahu](#)
6. What data might be interesting to Māori researchers? For example:
 - [Ngā Pae o te Māramatanga](#)
 - [Te Mata o Te Tau](#)
7. What data might be helpful to Māori urban authorities? For example:
 - [Te Whānau o Waipareira](#) (West Auckland)
 - [Manukau Urban Māori Authority](#) (South Auckland)
 - [Te Rūnanga o Kirikiriroa](#) (Hamilton)
 - [Te Roopū Āwhina ki Porirua](#) (Porirua)
 - Te Rūnanga o Maatā Waka (Christchurch)

8. What data might be useful to Māori training and education providers? For example:

- [Te Wānanga o Raukawa](#)
- [Te Kura Kaupapa Māori o Bernard Fergusson](#)

9. What data would help Māori social and health service providers? For example:

- [Awarua Social and Health Services](#)
- [Best Care \(Whakapai Hauora\) Charitable Trust](#)

10. Recent research puts the Māori economic base at \$36.9 billion and Māori as the world's third-most entrepreneurial indigenous people (Rush, 2011). What data would benefit [Māori businesses](#) and organisations that support Māori businesses? For example:

- [Taupo Moana Group](#)
- [Te Awe Wellington Maori Business Network](#)
- [Aotearoa Fisheries Limited](#)
- [Whale Watch](#)

11. Are there any Māori achievements on the national or global stage you could mention? For example, although Māori make up approximately 16 percent of the population, 35 percent of New Zealand's elite rugby players are Māori.

12. Are any interesting trends emerging?

13. What data sheds light on life for Māori – historically, in the present day, or in the future?

How to increase Māori access to information

According to the Use and Trust in Official Statistics Survey, Māori users are more likely than non-Māori users to access statistics through government websites other than our own, or printed government publications, or by direct contact with a government department.

Keeping these findings in mind, ask yourself these questions.

- How does the information I have connect with information, for or about Māori, that other government departments and agencies provide?
- How can I lead Māori users to our information, or provide links to our information for other departments and agencies?
- Have I given the Information Centre what they'll need to help a Māori group or individual who contacts them with a need for statistical information?

4 Examples of statistical stories

Each of the following examples contains some (but not necessarily all) of the elements we looked at in chapter 2. Some of what is done well, and some things that could be improved on, are noted in bullet points.

These stories are taken from Statistics NZ, other statistical agencies, and both national and international news media. Browse them for themes or topics that apply to your area of expertise.

Everyday life in New Zealand

[2011: The year by numbers](#)

This article from The Dominion Post website uses a range of Statistics NZ information to give an all-round picture of our country and people over a year.

[Myth 10: There are at least 1,000,000 New Zealanders living overseas](#)

This article from the Population and Sustainable Development website uses statistics to examine a commonly held belief, and explains its origin.

[New baby most likely Auckland's 1.5 millionth resident](#)

This Statistics NZ media release examines population growth in New Zealand's largest city.

[The changing face of NZ's population](#)

This story on the Stuff website expands on the Statistics NZ article above.

This is what it does well.

- Uses some numbers in the text, but not enough to make it hard to read.
- Presents the majority of the statistics separately, in easy-to-read lists.
- Uses quotes from a couple of sources to provide a human element to the statistics.
- Provides context – explains why New Zealand attracts Asian immigrants, and how the ageing Canterbury population affects the statistics.

This is what it could do better.

- A couple of descriptive subheadings would make the story easier to scan.

[Fishing has more Kiwis hooked than Rugby](#)

This article, from the Horizon research website, looks at the popularity of various sports in New Zealand, for those either playing or watching.

This is what it does well.

- Uses a surprising revelation for the headline to hook readers.
- Reveals the most interesting finding in the first sentence of the story, expanding on the headline.
- Includes a graph to support the main point of the story.

This is what it could do better.

- Paragraphs four and five could use bullet points to make the numbers easier to compare.
- The statistics about participation in sport, by gender (last five paragraphs), could be presented in a graph, to make them easier to compare. Removing the numbers from the text would also make these paragraphs easier to read, or leave room for other contextual information.
- The information about the survey itself (sixth paragraph) could be left to the very end of the story.
- The article could include context – eg how trends have changed over time.
- The article could include a quote from someone in the sports industry, to give the story a bit more personality.

[iPads in, dictionaries out](#)

This article from the Stuff website examines how a review of the consumers price index (CPI) basket reflected changing consumer spending habits in New Zealand.

This is what it does well.

- Has a storyline that is suitable for the intended audience (ie the public).
- Uses appropriate language for the audience.
- Ensures that the first paragraph expands on the headline and sums up the story.
- Puts the most interesting information first and lets supporting information follow.
- Includes sufficient detail to round out the story, but doesn't overwhelm the reader with more information than is necessary.
- Explains technical information simply, in plain English.
- Ends the story with a memorable and convincing quote.
- Tells the story using only a few numbers.
- Supports the story with an engaging visual.
- Gives the wider context – shows what the CPI review revealed about the effect of the global recession on New Zealand households.

This is what it could do better.

- Title could include slightly more information (the original was published in the newspaper's print version, so brevity could be due to space constraints).

Specific societal groups (eg focus on age, sex, ethnicity)

[Māori Language Week 2011 – Manaakitanga in Aotearoa](#)

This Statistics NZ media release pulls together statistics from the 2006 Census and the *Time Use Survey: 2009/10* to reveal how the spirit of manaakitanga, or helping others, is alive and well among today's Māori.

[Better qualifications reduce chance of unemployment in your mid-20s](#)

This media release from the United Kingdom's Office for National Statistics shows how 24-year-olds with higher qualifications are more likely to be employed than those with fewer qualifications.

This is what it does well.

- Presents the most important findings upfront.
- Provides context by comparing the UK's youth unemployment statistics with those of other European Union countries.

This is what it could do better.

- The second paragraph, which presents the key findings, is difficult to read because it contains so many numbers. This information could be more clearly presented by using bullet points to compare the figures.
- A graph would clearly illustrate the key findings.

[Aboriginal Languages in Canada: Emerging Trends and Perspectives on Second Language Acquisition](#)

This report from Statistics Canada looks at the decline of aboriginal language use in Canada and how this is partly offset when some native languages are learned as second languages.

This is what it does well.

- Has a clear storyline.
- Has descriptive subheadings that together give an overview of the entire story.
- Ensures that the first paragraph after each subheading expands on the subheading.
- Includes numbers, but the text is not packed with them.
- Has frequent graphs to illustrate the text.
- Uses clear, concise language.
- Includes plenty of context – shows how changing social habits and influences have affected aboriginal languages.
- Links to a separate web page for the technical notes and glossary (instead of cluttering up the body of the story).

This is what it could do better.

- Title and subtitle could be written in plainer English, which includes an active verb (as the subheadings do).
- Summary could be brought to the top of the story.
- Graphs and tables could be included between paragraphs so readers don't have to follow links to them (which may mean they lose the thread of the story).

[Employment participation rate also higher among mothers with non-western background](#)

This article by Statistics Netherlands compares the rate of employment for native Dutch mothers with that of non-native mothers.

[Most young children do not travel unaccompanied](#)

This article by Statistics Netherlands examines the travel habits of children aged under 12 years.

Time of year, holidays, or memorial days

[Remembrance Day – statistics of war](#)

This article is from statistical website Significance. It compares lives lost in World War II's bloodiest battles and reveals the scale of devastation suffered by Eastern European nations.

This is what it does well.

- Provides context – shows how the statistics change commonly held beliefs about World War II history.
- Has minimal figures in the text, but puts them into a list so they are easy to compare.
- Uses visuals to illustrate the story.

This is what it could do better.

- Could have a more descriptive headline.
- Figures in the list may be more clearly illustrated in a graph.
- Could hook the reader better with a lead sentence and first paragraph that sum up the main point of the story. As it stands, the entire first paragraph is peripheral – the information source (the book title) could come much later in the story.

[Christmas dinner should cost us a dollar or two less this year](#)

Food prices from the *Food Price Index: November 2009* are compared with those of previous years to create this Christmas-time media release. To keep the tone light and festive, there's even some extra (non-statistical) information about pavlova.

[Holly but no Ivy last Christmas](#)

This media release from the Office for National Statistics details England and Wales's most popular baby names in December 2010.

[Cold winter sends Kiwis to clothing stores, says Stats NZ](#)

This article from The New Zealand Herald website uses seasonal information to draw readers into examining the wider economy.

Focus on specific commodities

[Red, ripe, and really versatile: tracking tomato prices in the CPI](#)

This article from the *Price Index News* tracks the price of fresh and processed tomatoes over a five-year period. It also looks at their history in the CPI basket, spending patterns by households, and the place of tomatoes in overseas trade.

[Sheep jokes aside, Kiwis lose their friends](#)

This article from the TVNZ website is a good example of what the media can do with a few agricultural statistics. It draws in plenty of elements that we can't include in our own stories, but the friendly language, informative context, and sparse use of numbers are all things we can aspire to.

This is what it does well.

- Has a storyline that is suitable for the intended audience (ie the public) and uses appropriate language.
- Puts the main point of the story first and follows with information that adds to this.
- Provides context – draws in lots of related information about the importance of sheep to the Kiwi culture, and explains the reasons for decreasing sheep numbers.
- Uses excellent quotes. They add a human element to what the figures reveal, and expand the story with everyday, non-technical language.

This is what it could do better.

- The headline could spell out the subject of the story a bit more clearly.
- Could use a few subheadings to make the story easier to scan.

Current events

[Earthquakes and ash clouds affect South Island guest nights](#)

Accommodation Survey: June 2011 shows how catastrophic events affected how long, and how many, tourists stayed in guest accommodation in some parts of the country.

[New Zealanders more prepared for disasters following Canterbury quake](#)

This Statistics NZ media release tells how the September 2010 Canterbury earthquake spurred thousands of New Zealand households to improve their preparedness for a disaster.

[Rugby World Cup visitors impact retail spending](#)

Retail Trade Survey: September 2011 quarter pinpoints the effect of increased visitor numbers on retail spending during the Rugby World Cup.

[One person in every 1,600 lives in New Zealand](#)

National Population Estimates: September 2011 quarter picks up on the global population reaching 7 billion. This release puts New Zealand's population into a global context.

[Do the dead outnumber the living?](#)

In this article, the BBC creates a completely different story from the 7 billion milestone. It examines whether it's possible to estimate the number of people who have ever lived.

This is what it does well.

- Uses well-chosen quotes that explain the story in plain language.
- Has relatively few numbers in the text.
- Includes a table to clearly present the statistics.
- Links to an interactive graph, which places the reader in the story and helps them explore the data.

This is what it could do better.

- The article could answer the question of the headline **before** explaining how the answer was calculated. The reader has to read almost the entire article before their curiosity is satisfied.



References

Few, S (2009, July/August). *Statistical narrative: Telling compelling stories with numbers*. Visual Business Intelligence Newsletter. Available from www.perceptualedge.com.

Grayzel, E (2011). [Humans hard-wired for stories](http://www.evagrayzel.com). Available from www.evagrayzel.com.

Nielsen, J (2008). [How little do users read?](http://www.useit.com) Available from www.useit.com.

Rush, A (2011). [Unlocking the full potential of Maori business](http://idealogue.co.nz). Available from <http://idealogue.co.nz>.

Statistics Norway (2002, October). *Statistical storytelling*. Presented at Conference of European Statisticians, Geneva.

Statistics NZ (2010). [Use and Trust in Official Statistics Survey 2010](http://www.stats.govt.nz). Available from www.stats.govt.nz.

Statistics NZ (2011). *What makes a good statistical story?* Unpublished questionnaire.

United Nations Economic Commission for Europe (2005). *Making data meaningful*. Geneva: United Nations. Available from www.unece.org.

United Nations Economic Commission for Europe (2009). *Making data meaningful, part 2*. Geneva: United Nations. Available from www.unece.org.



Appendix: Get your stories published

Contact the publishing team

The publishing team is part of [Product Development and Publishing](#) (PDP). PDP's work is to develop, deliver, and promote Statistics NZ's products and services.

All Statistics NZ publications go through a publishing process before being revealed to their audiences. The publishing team works with you to make sure your publication meets standards and audience needs, and is delivered on time.

To start the publishing process, contact [your project editor](#). They will advise you on all publishing matters and schedule time for your project. You'll need to brief them well – find out what kind of information to give them in [Your guide to getting published](#).

Apply the correct styles, standards, and templates

Statistics NZ's styles, standards, and templates ensure our content is of a consistently high quality. Take time to become familiar with them (below), and [email editorial](#) if you need help.

Styles

[Style Manual](#)

[Style sheets](#) record style decisions authors and editors have made for particular publications. Check whether your publication has a style sheet before you start writing.

Templates

[Statistics NZ corporate templates](#)

Graphics

[Guidelines for Statistical Graphics](#)

[Guidelines for static data visualisation](#)

Tables

[Guidelines for Tables](#)

PowerPoint presentations

See chapter 14, 'Presentations', in Statistics NZ's [Style Manual](#)

Language resources

[Māori language resources](#)

[Your guide to our Plain English Standard](#)

[Plain English movement homepage](#)

Get help with Sitecore

Most Statistics NZ publications are published on our website. Authors are responsible for entering their content into Sitecore (our web content management system) and formatting it. However, the web support team will help you – call them on extension 4181 or [email them](#). You can also see the [Sitecore portal](#) for information about access and training, and for help with any problems you might have.