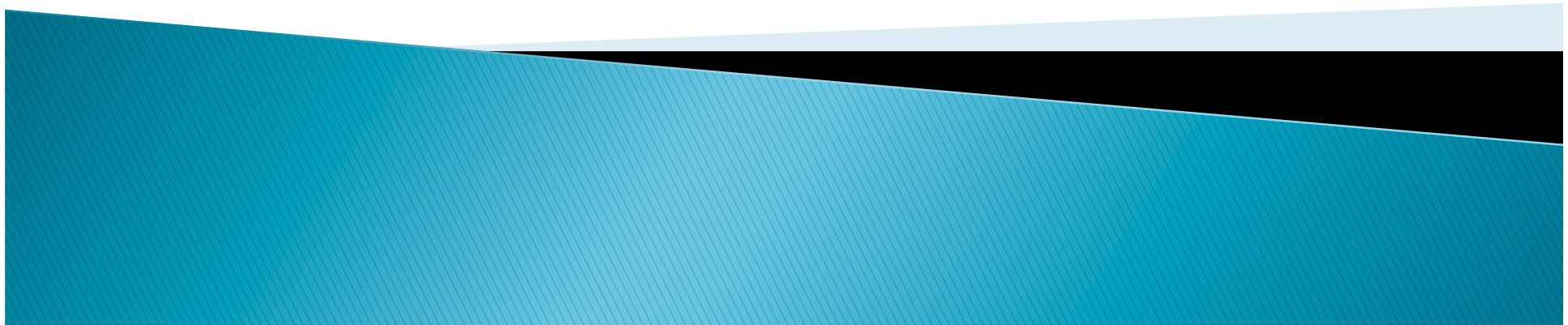


# Tips for improving your medical writing

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*AAG Medical Writing*

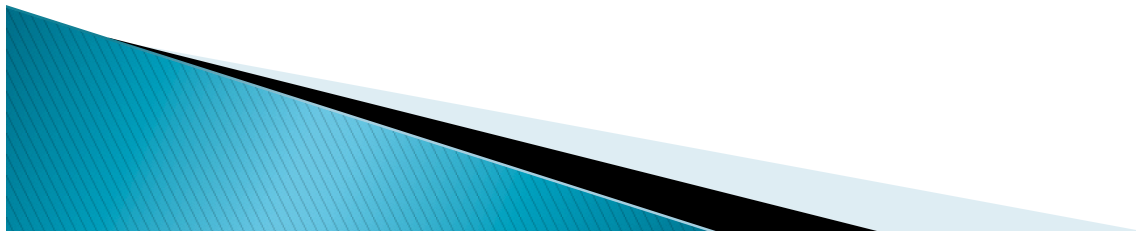
[aagmedicalwriting@btinternet.com](mailto:aagmedicalwriting@btinternet.com)  
[www.aagmedicalwriting.co.uk](http://www.aagmedicalwriting.co.uk)



“Say all you have to say in the fewest possible words, or your reader will be sure to skip them; and in the plainest possible words or he will certainly misunderstand them”

John Ruskin (1819–1900)

Art critic, author, and poet



# Tips for improving your medical writing

Be precise

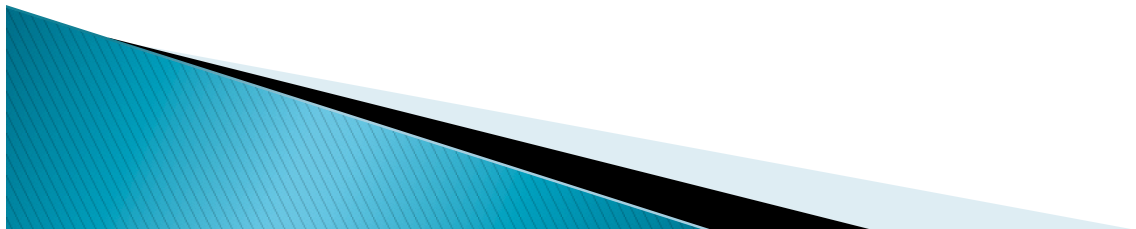
Be concise

Be accurate and clear

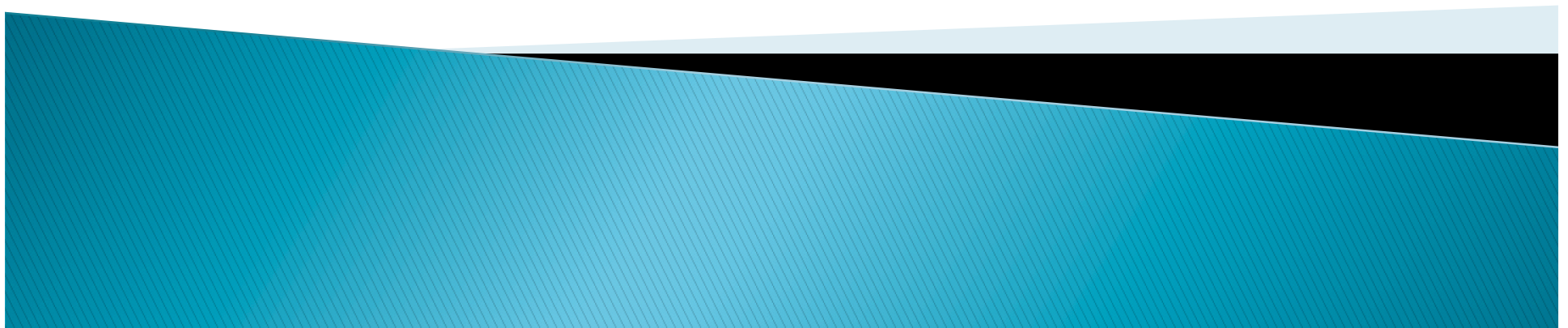
Be correct

Be organised

Write for your target audience



Be precise





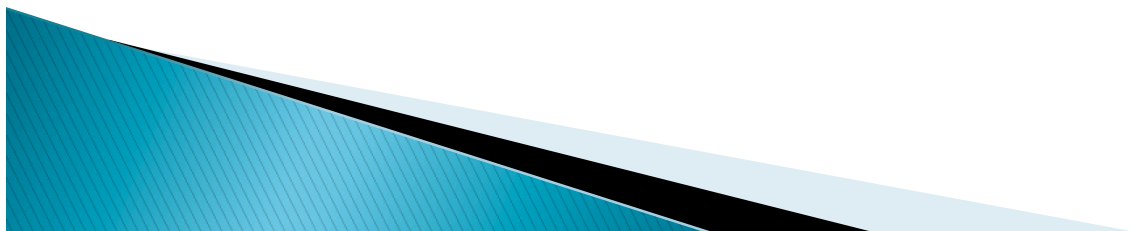
*“When I use a word....it means just what I choose it to mean – neither more nor less.”*

*Humpty Dumpty in Through the Looking Glass, by Lewis Carroll*



In scientific and medical writing precision is the most important goal of language

- choosing the right words
- choosing the correct level of detail



# What's in a word?

**affect** *verb* meaning to influence

**principal** *noun or adjective* meaning most important

**dose** quantity administered at one time

**examine:** patients, animals and slides are examined

**effect** *noun* means result or *verb* to bring about

**principle** *noun* meaning a law

**dosage** regulated administration of doses

**evaluate:** conditions and diseases are evaluated

# effect/affect

Although we gave penicillin and terramycin, the drugs had little \_\_\_\_\_. The \_\_\_\_\_ of the treatment was minimal.

In double-blind experiments, researcher bias does not \_\_\_\_\_ experimental results.

Digestion has the \_\_\_\_\_ of converting the substrate to short-chained peptides.

effect

effect

affect

effect

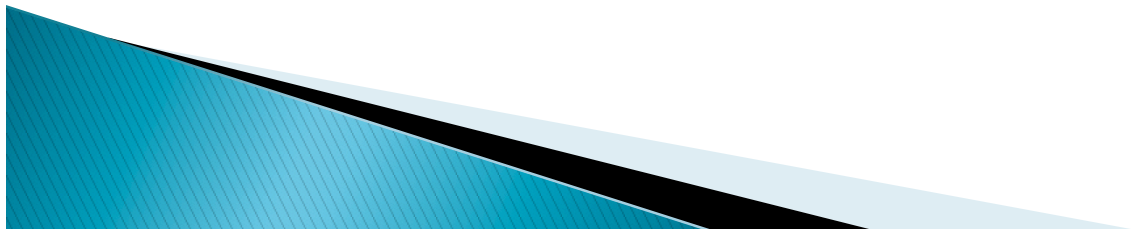
# Compared with or compared to?

- ▶ *Compared with* when looking for differences between things

80% of patients in the Wonderdrug group reported no loss of activity *compared with* 50% of patients in the placebo group

- ▶ *Compared to* when saying something is like something else

“Shall I *compare* thee *to* a summer’s day?”



# Singular or plural?

phenomenon

phenomena

stratum

strata

criterion

criteria

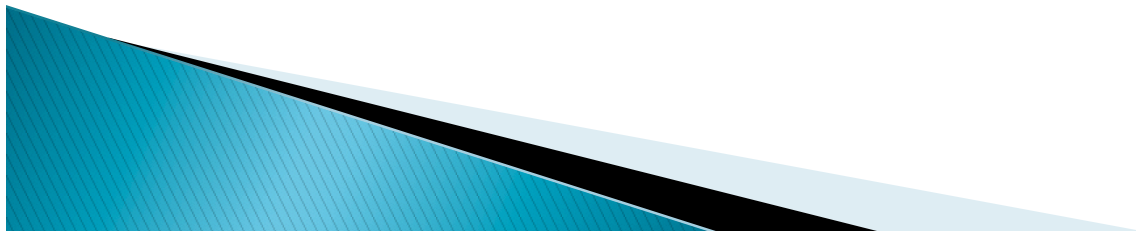
singular form

plural form

# Level of detail important

- ▶ precision is influenced by the level of detail

need to choose an appropriate level of detail





# Choosing the appropriate level of detail

Achieve a balance between

- ▶ general statements

- establish a direction of thought

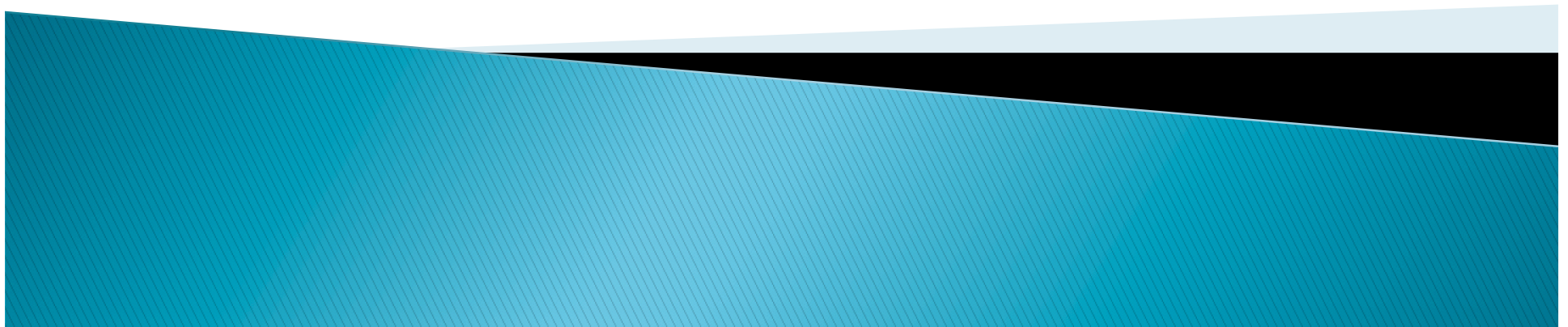
.. extent of undiagnosed clinically significant COPD in England, and the characteristics of this population have been investigated...

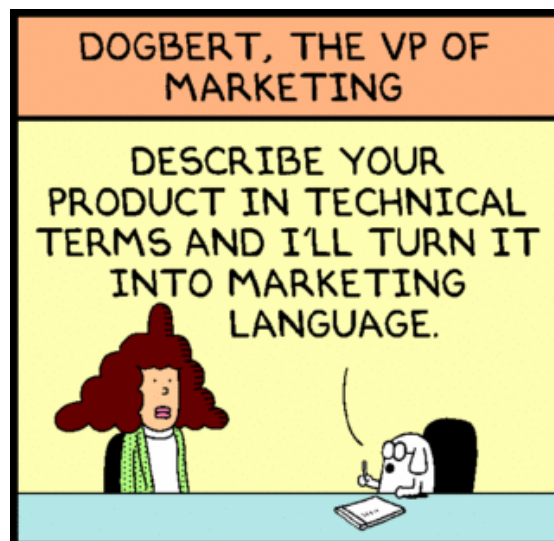
- ▶ specific detail

- gives evidence to support the direction

....identified 20,496 participants aged  $\geq 30$  years with valid lung function measurements. Of these, 971 (4.7%) were defined as having clinically significant COPD, 840 (86.5%) of whom had no previous diagnosis. Undiagnosed cases were more likely to be female, and smoke less. Overall, 25.3% of undiagnosed cases had severe disease ( $FEV_1 < 50\%$  predicted), 38.5% had Medical Research Council grade 3 dyspnoea and 44.1% were current smokers....

Be concise accurate and  
clear

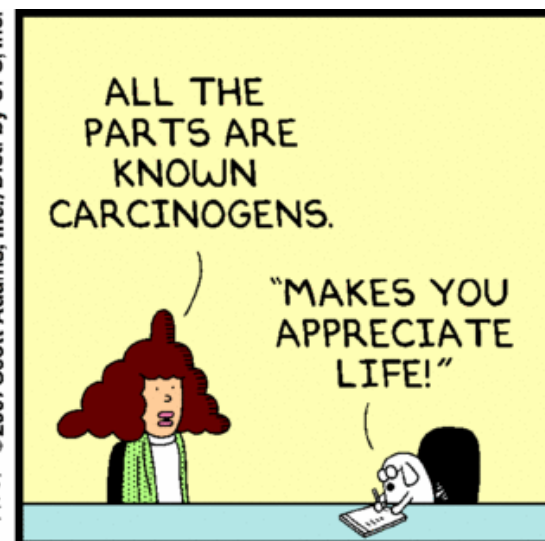




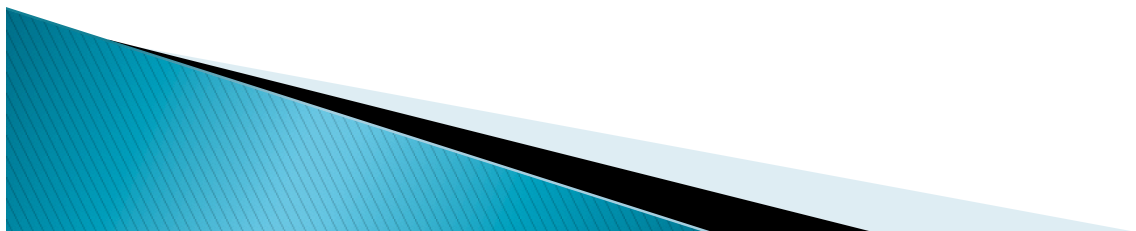
www.dilbert.com scottadams@aol.com



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- ▶ Avoid things you don't mean!
- ▶ Avoid more complexity than you need!



“Don't use words too big for the subject. Don't say "infinitely" when you mean "very"; otherwise you'll have no word left when you want to talk about something really infinite”



CS Lewis (1898 –1963)

## Excess wordiness

- ▶ It would appear that...
- ▶ In light of the fact that..
- ▶ It is this that..
- ▶ It is often the case that..

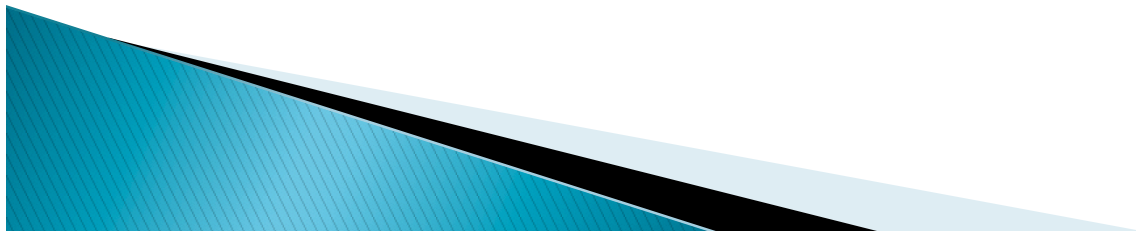
## Becomes

- ▶ Apparently..
- ▶ Because..
- ▶ This..
- ▶ Often..

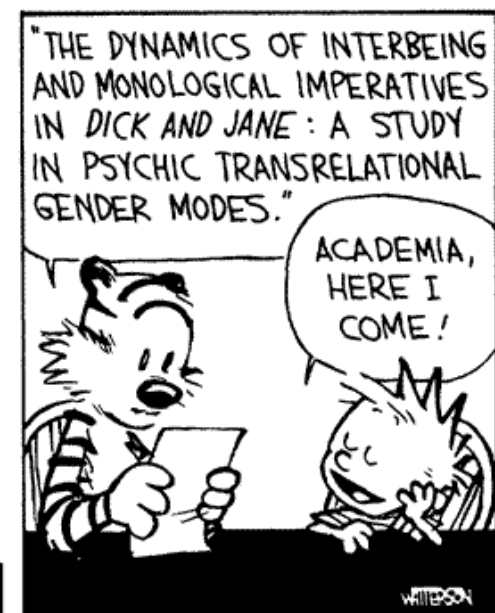
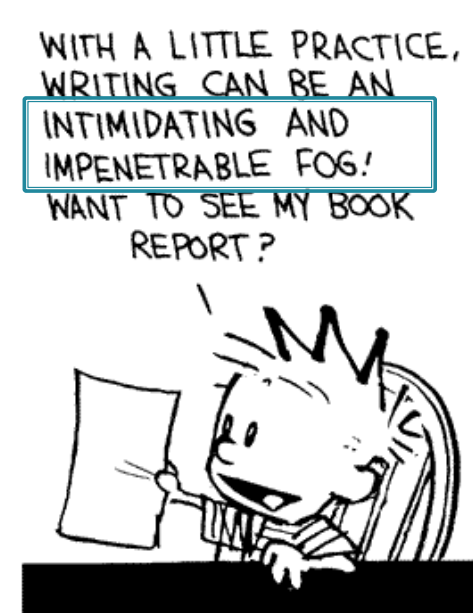
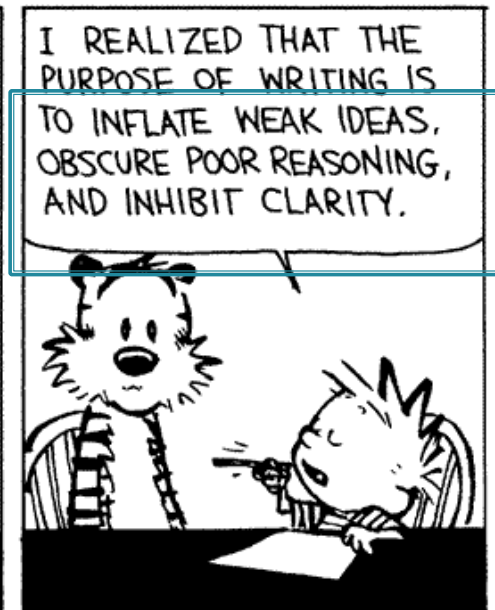
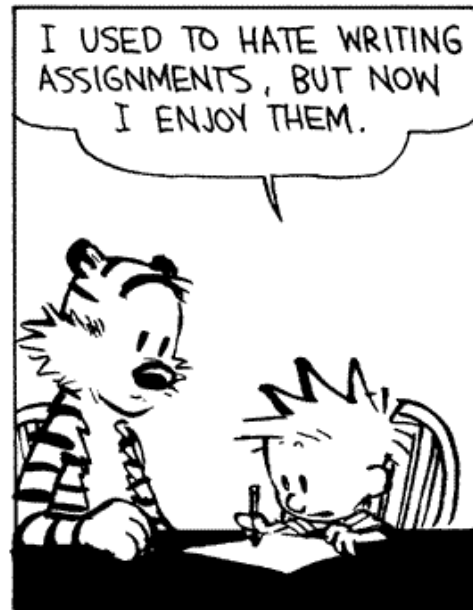
Remember:

A medical writer is communicating complex ideas to different audiences.....

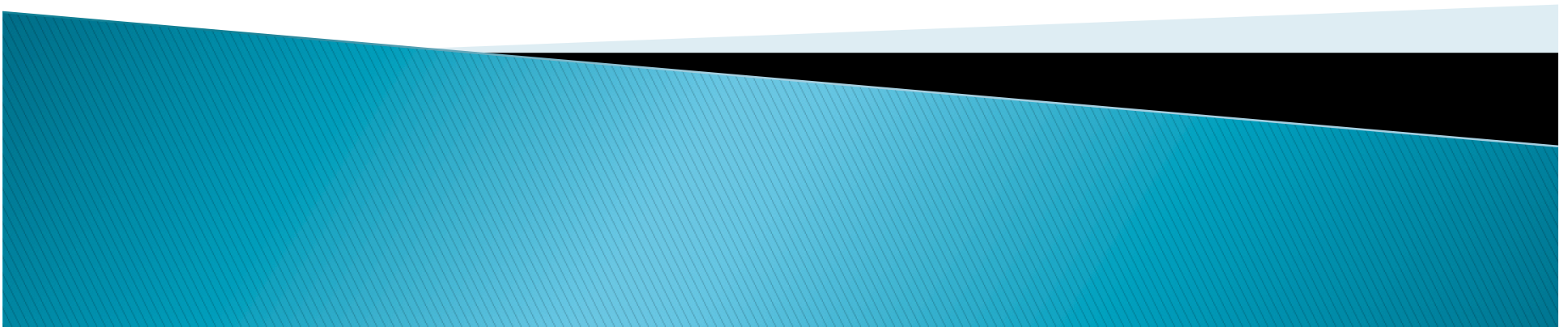
.....the language is not there to impress and confuse the reader







Be correct





www.dilbert.com

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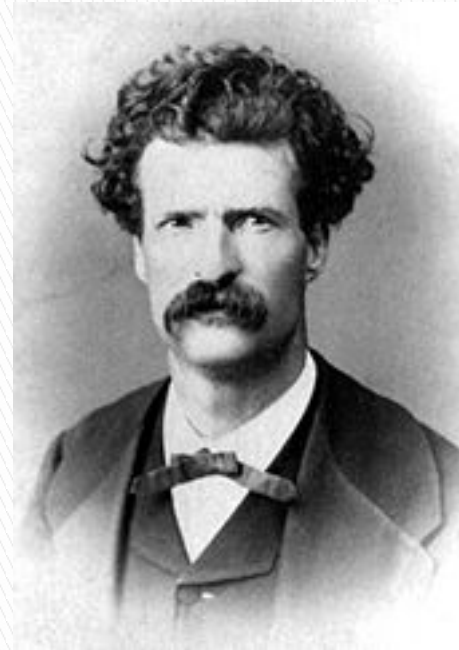
# Be accurate and remember:

*“A lie gets halfway  
around the world  
before the truth has  
a chance to get its  
pants on”*

*Winston Churchill*



“Be careful about  
reading health books.  
You may die of a  
misprint”

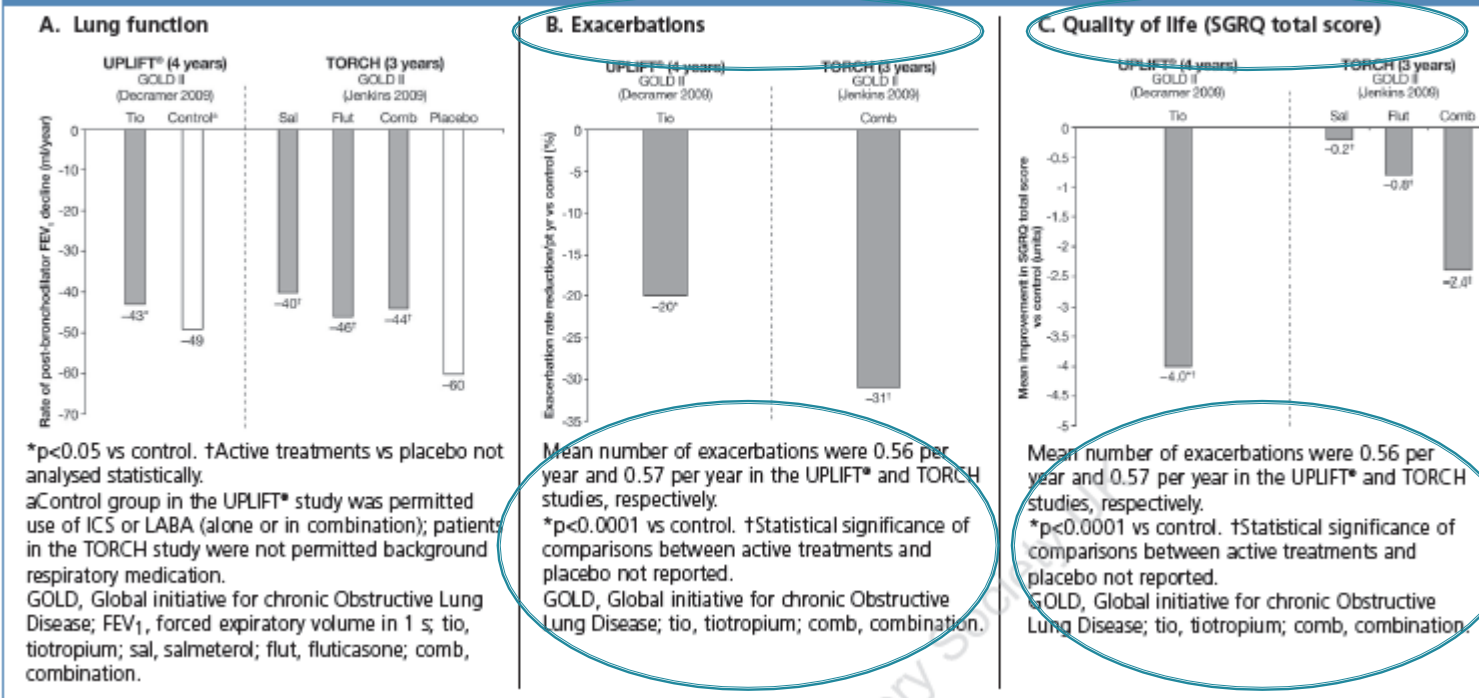


Mark Twain, author  
1835 –1910



# Optimising pharmacological maintenance treatment for COPD in primary care. *Primary Care Respiratory Journal* (2011); 20(1): 33–45

Figure 5. Lung function, exacerbations, and quality-of-life outcomes in patients with earlier disease (GOLD stage II) in UPLIFT<sup>®</sup> and TORCH<sup>®</sup> trials.



# *The* NEW ENGLAND JOURNAL *of* MEDICINE

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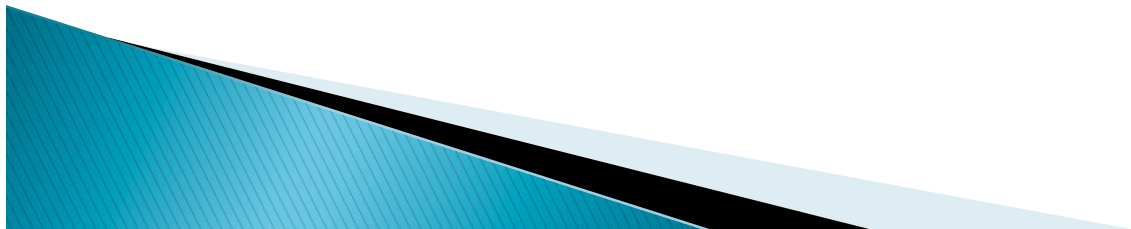
VOL. 356 NO. 8

## Salmeterol and Fluticasone Propionate and Survival in Chronic Obstructive Pulmonary Disease

Peter M.A. Calverley, M.D., Julie A. Anderson, M.A., Bartolome Celli, M.D., Gary T. Ferguson, M.D., Christine Jenkins, M.D.,  
Paul W. Jones, M.D., Julie C. Yates, B.S., and Jørgen Vestbo, M.D., for the TORCH investigators\*  
N Engl J Med 2007;356:775-89.

In another paper referenced as:

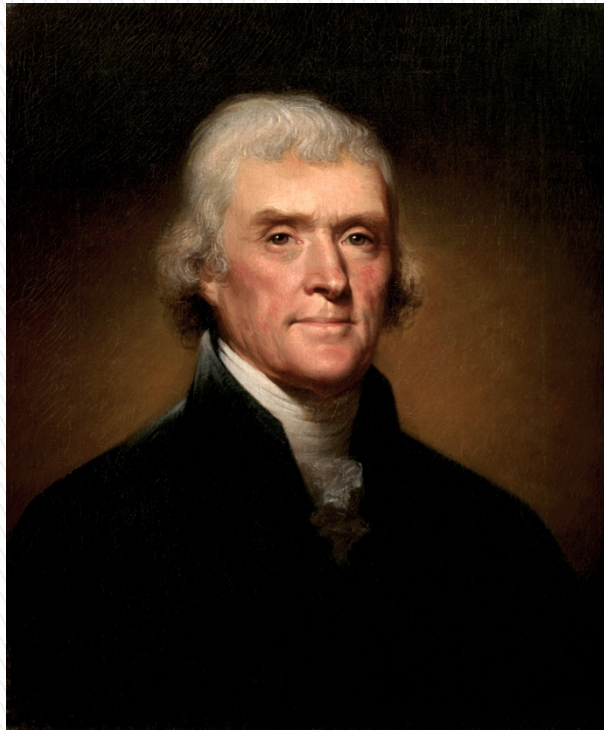
Calverley PM, Anderson JA, Celli B, Ferguson GT, Jenkins C, Jones PW, Yates JC, Vestbo J. for the TORCH investigators. [Efficacy of salmeterol and fluticasone propionate on mortality in chronic obstructive pulmonary disease: the TORCH survival trial.](#) N Engl J Med 2007;356:775–789.



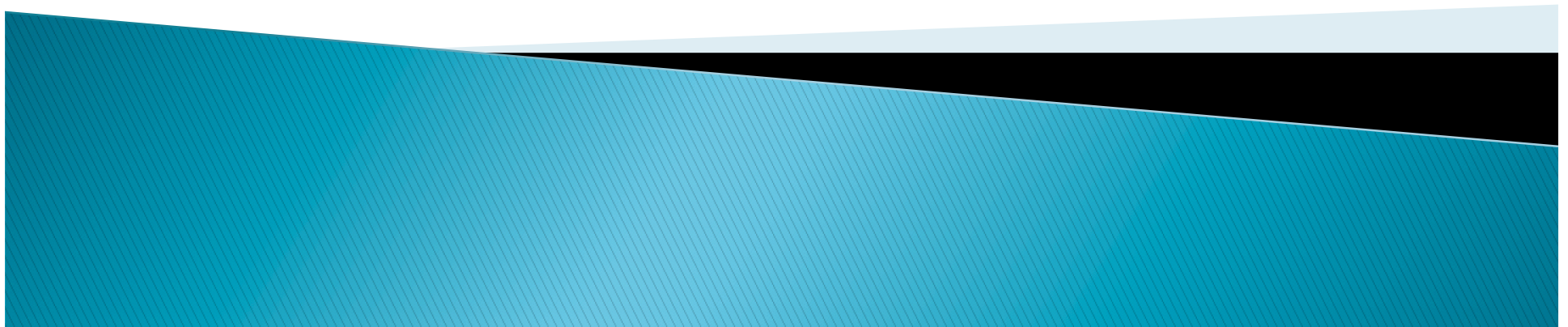


“Delay is preferable to error”

Thomas Jefferson



Punctuation and  
grammar are important



# Use punctuation correctly

A woman, without her man, is nothing

# Use punctuation correctly

A woman: without her, man is nothing

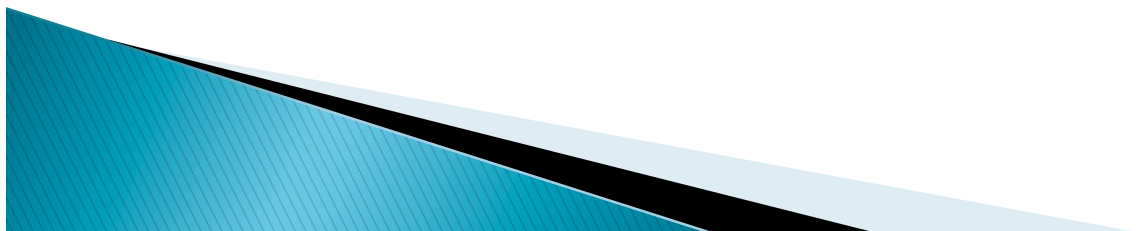
# A puzzle for you

Every Lady in this land  
Hath 20 Nails on *each* Hand;  
*Five & Twenty* on Hands *and Feet*;  
And this is true, without deceit.

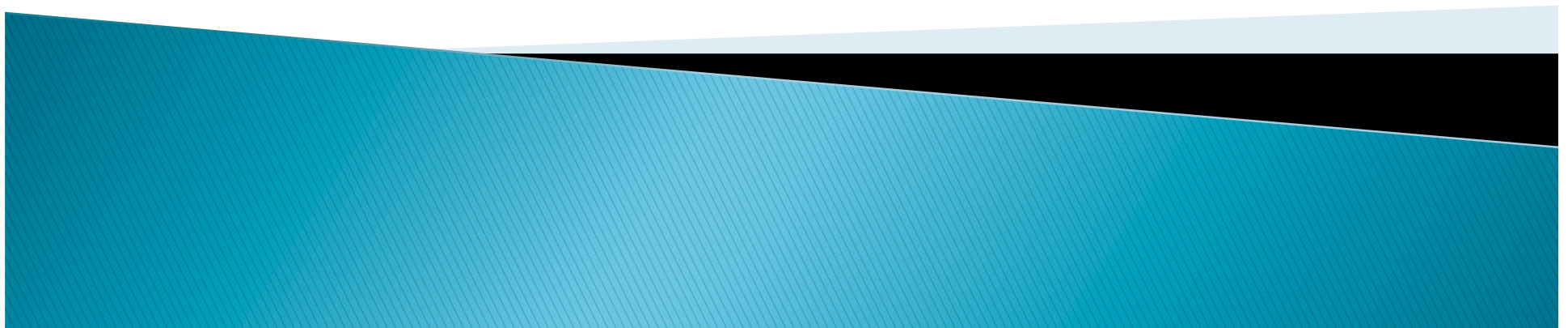
Meaning: every lady in this land has twenty nails. On  
each hand five; and twenty on hands and feet.

- ▶ Grammar is also important

<http://www.grammarmudge.cityslide.com/>



Be organised

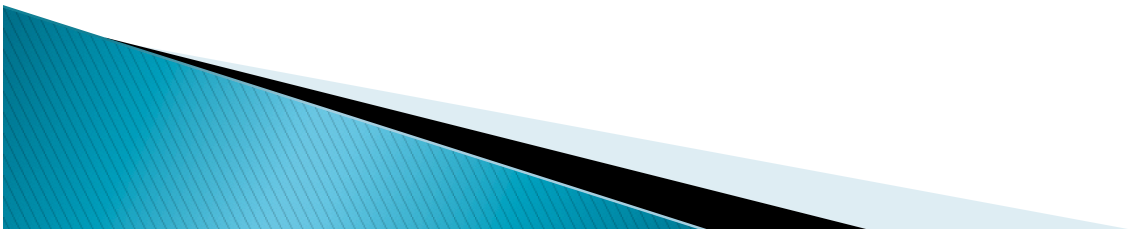




“The man who removes a mountain begins  
by carrying away small stones.”

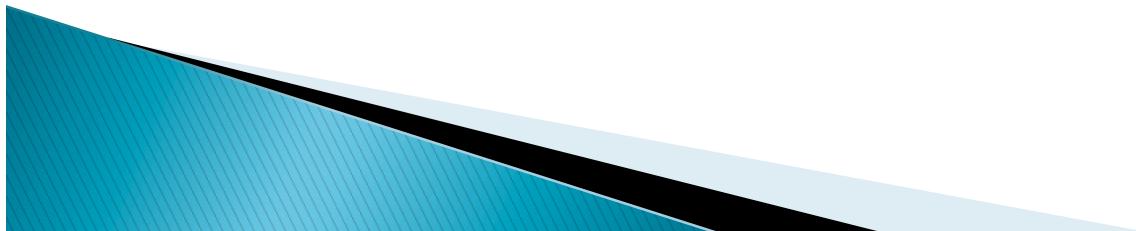
*William Faulkner*

(William Faulkner, Nobel Literature Prize 1949)



# Organise and plan your message

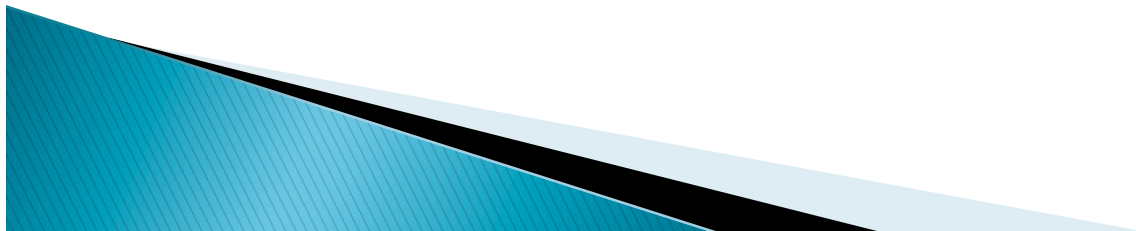
- ▶ Capture key points
- ▶ Translate into an organised list
- ▶ Develop a framework or outline
- ▶ Use complete sentences or phrases or words



# Capturing ideas

- ▶ Mind mapping
- ▶ Brainstorming
- ▶ Concept maps
- ▶ Random list

Lists are rearranged, edited and structured



# Develop a framework or outline

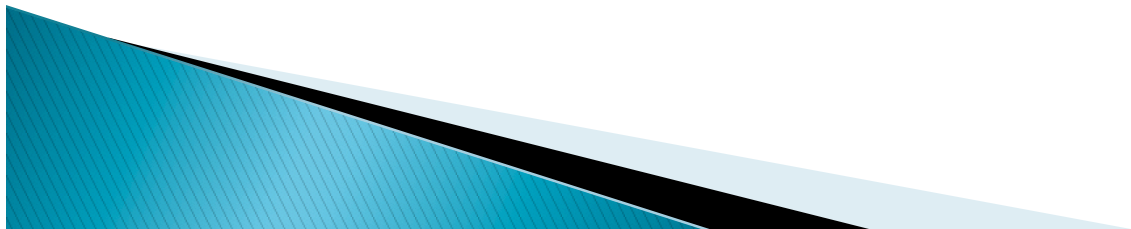
- Use headings and sub headings
  - Often use IMRaD structure
- Group related themes together

## **Importance of early detection**

- Symptomless and/or cough/sputum
  - Important health messages
- Smoking cessation and physiological changes
- Improved prognosis
- Reduced treatment costs

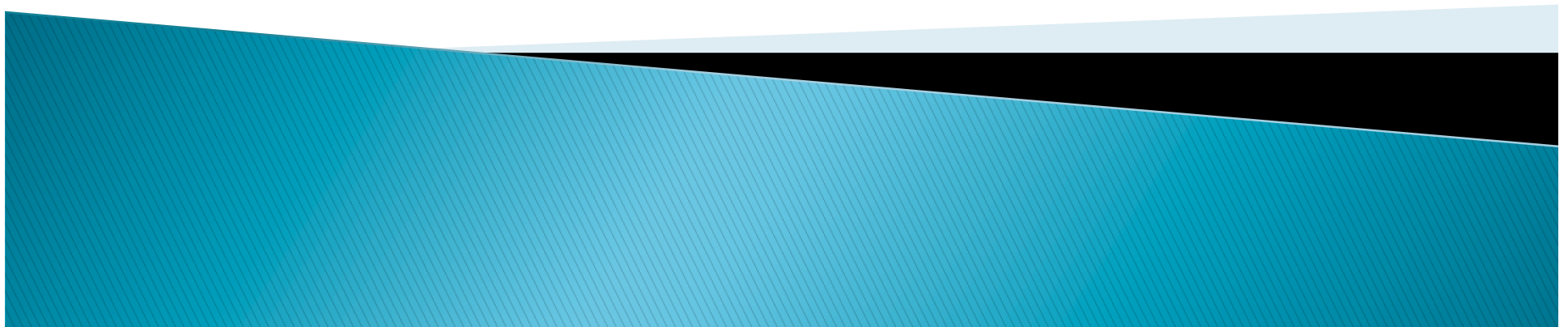
## **Strategies to Improve early detection**

- How to identify those at risk
  - Spirometry is the most reliable detection method for COPD





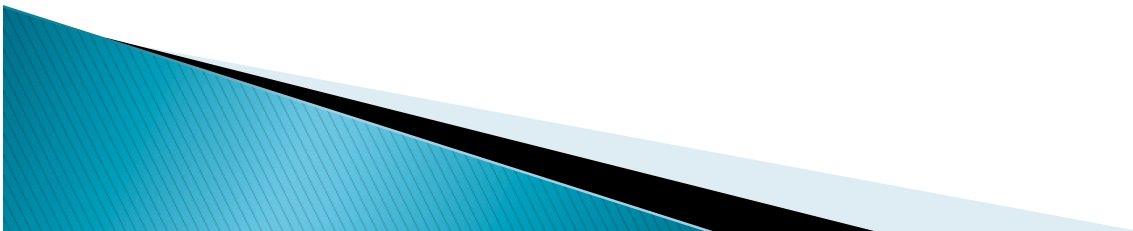
Write for your target  
audience



# Ask yourself

1. **Why** am I writing this document?
2. **Who** am I writing it for?
3. **What** do I want them to understand?
4. **What** tone should I use?

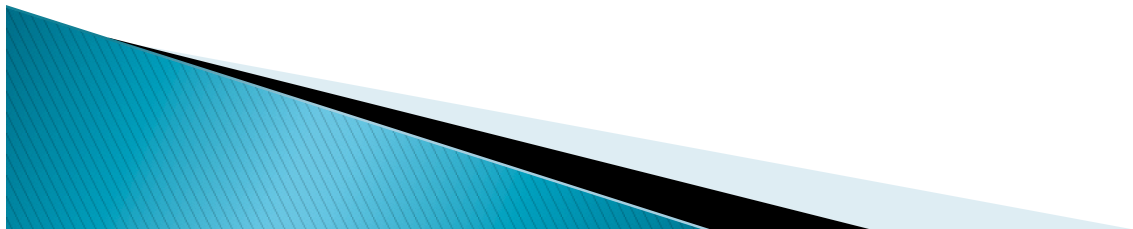
The tone you use to write a document changes depending on your intended audience



# Types of audiences

- ▶ Physicians or experts in the field
- ▶ Patients
- ▶ Regulatory authorities
- ▶ General public
- ▶ Internal or external audiences?

Is your audience knowledgeable about the disease or therapy?

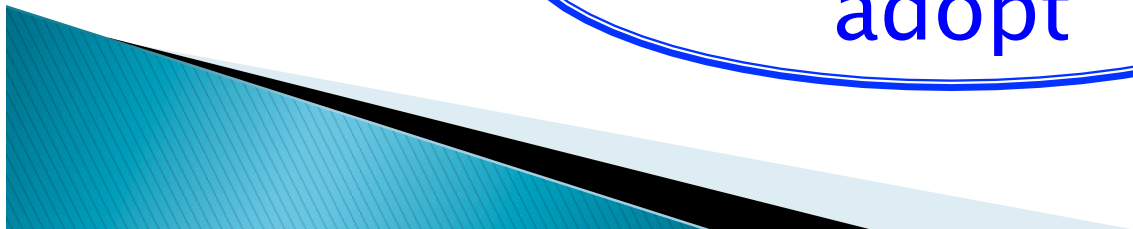




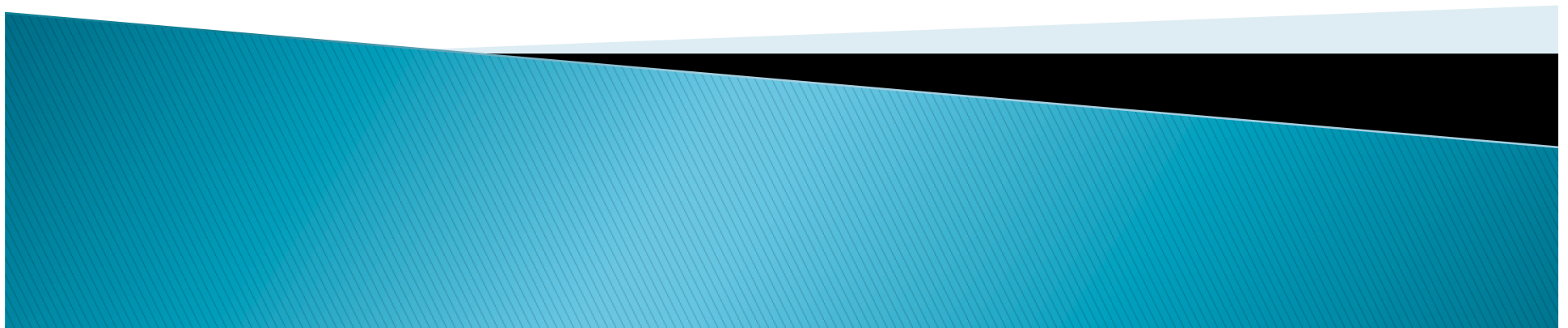
# Your audience determines

- ▶ The words you use
- ▶ How much depth you need
- ▶ Which results to emphasise
- ▶ The types of illustrations you use
- ▶ How to structure the information being presented

The tone you  
adopt



In Summary.....



*“Put it before them briefly so  
they will read it, clearly so  
they will appreciate  
it.....and above all,  
accurately so they will be  
guided by its light”*



**Joseph Pulitzer**  
(1847 –1911)