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Posters and PowerPoint's :
Getting your research 'out there'

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Director, Health Science Studies

University of Western Australia

Why present this workshop?

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- To encourage presentation / publication of research by technologists
- To provide you with the skills necessary to get your research 'out there'
  - Practical tips – a 'How to guide' Posters and Ppts
- To have you walk away thinking:
  - I can present my research as a poster
  - I can do an oral presentation

Do NMT's need to do research?

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- Research is a professional mandate!
  - Clear link between research practice and being identified as a <u>profession</u>
    - YOUR involvement is important if NMT's are to 'keep up with the Jones'
    - YOU should be concerned about who produces the knowledge that influences your practice
      - This directly influences <u>YOUR</u> professional standing
      - Effects future wages & conditions of employment
- Research needs to be conducted by those in clinical practice
  - Academics are often divorced from clinical practice
    - Research should be driven by the requirements of clinical practice

How do I tell others about my findings?
How do I affect Practice?

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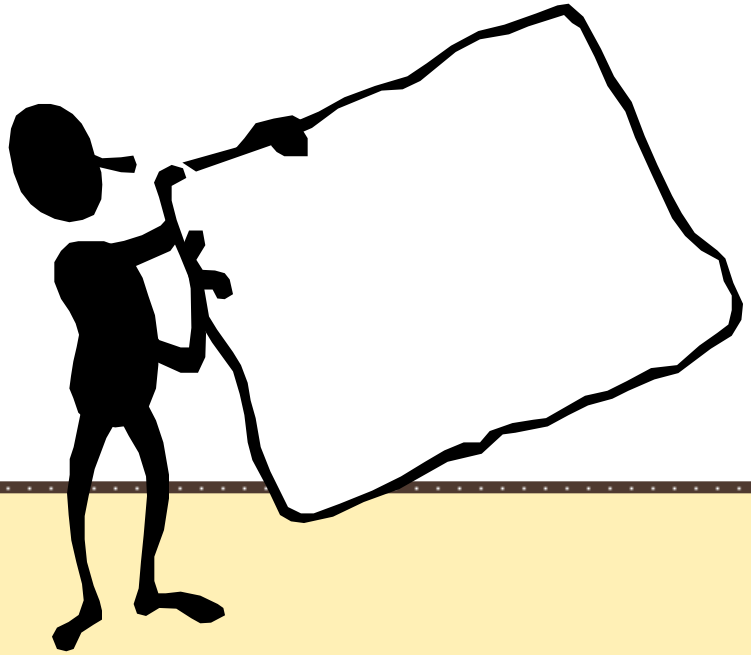
- Present findings at a scientific meeting
  - Poster
  - Oral presentation
- Publish results in a scientific journal
  - Research paper
  - Brief report
  - Case study / series (only certain journals)
  - Letter to the Editor

Covered in Adelaide workshop

- Each medium has different:
  - Scope, strengths & weaknesses
  - All have VALUE!!



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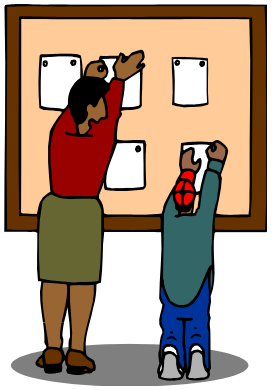
Posters



Why do a Poster?

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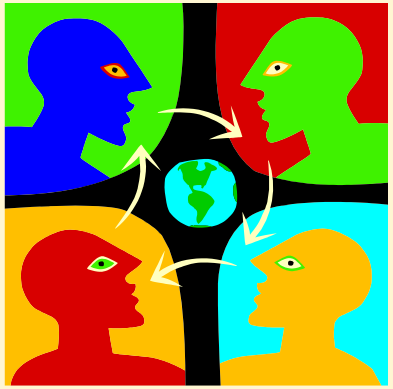
- Probably the least 'scary' medium
  - Good for first time presenters
  - Less daunting than oral presentation
- Suitable for ALL forms of research & case studies
- Can be cost-effective
  - Can be used in Home dept & other forums
  - Effective at publicising results
- Are primarily a VISUAL medium
  - Must be constructed with that in mind
  - Need to grab attention
  - NOT a journal article hung on a wall !!



Design tips for Posters

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- Same amount of info as a 10 min talk
- Must be structured
  - Intro /Background
  - Methods
  - Results
  - Conclusion
  - Acknowledgements
  - Flow of info MUST be intuitive
    - People scanning as they have coffee
    - Read in 3- 5 mins max
- Size – Specified by conference (adhere to it!)
- Stand by your poster at the allotted time
  - Leave handouts (mini posters) on the stand – incl contact details

Design tips cont.

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- Readable
  - At 1 Metre
    - Sans serif fonts (eg Tahoma, Arial, Comic Sans)
    - Good colour contrast (text, Bkgd & borders)
  - Simple background graphics (avoid clutter)
    - Consistent, unified colour scheme
  - 50% graphics, 30% text, 20% space

How to Guide – Using PowerPoint

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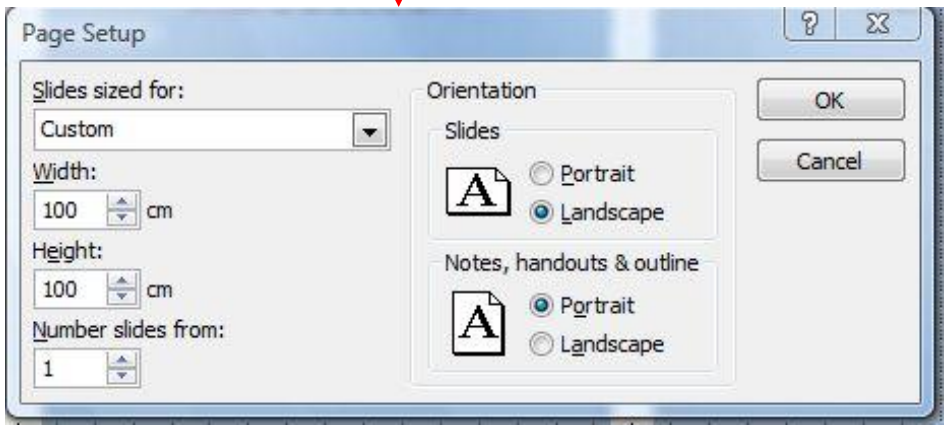
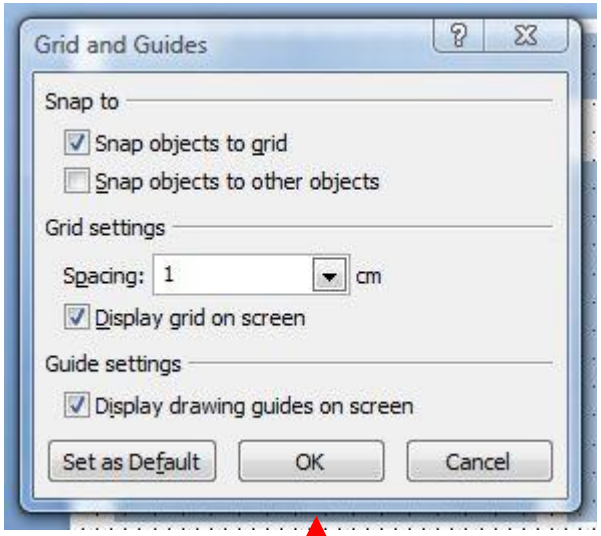
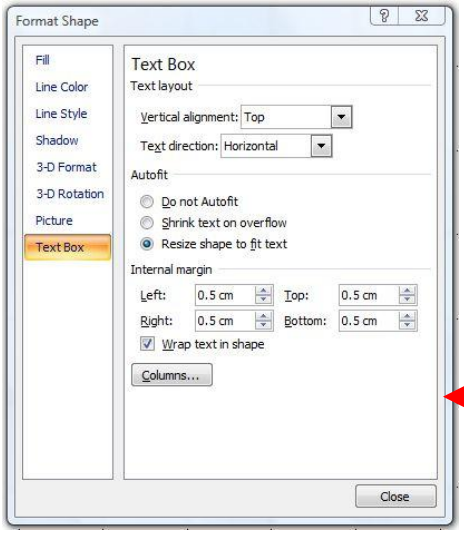
1. Set your poster size & orientation using page set up





2. Add gridlines – helps when aligning elements
   - Columns & rows MUST align at 90 degrees !!!
     - Use snap objects to grid



3. ALL text boxes 0.5cm border

4. Plan your layout first

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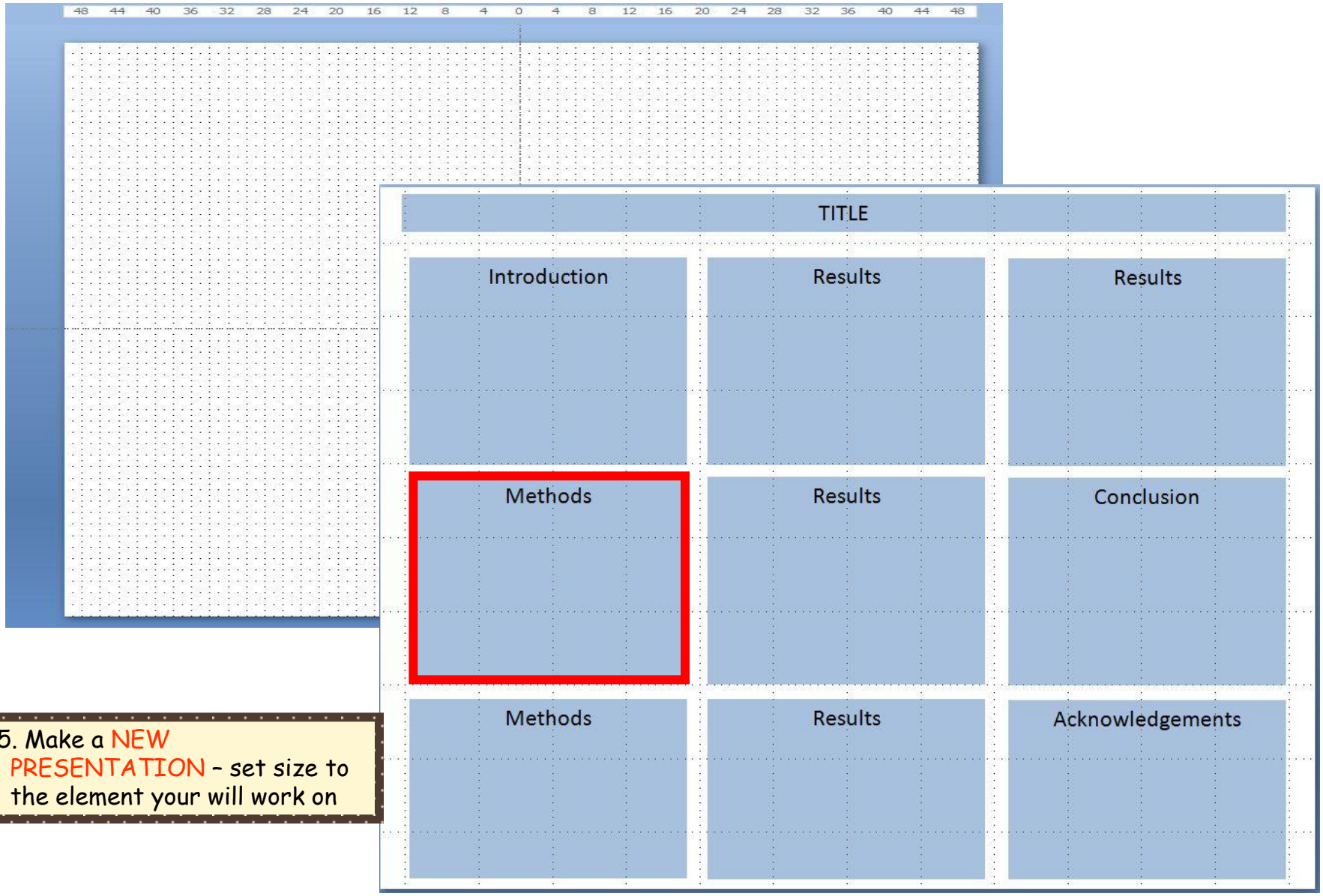

5. Make a NEW PRESENTATION – set size to the element your will work on

6. Plan each individual element /panel

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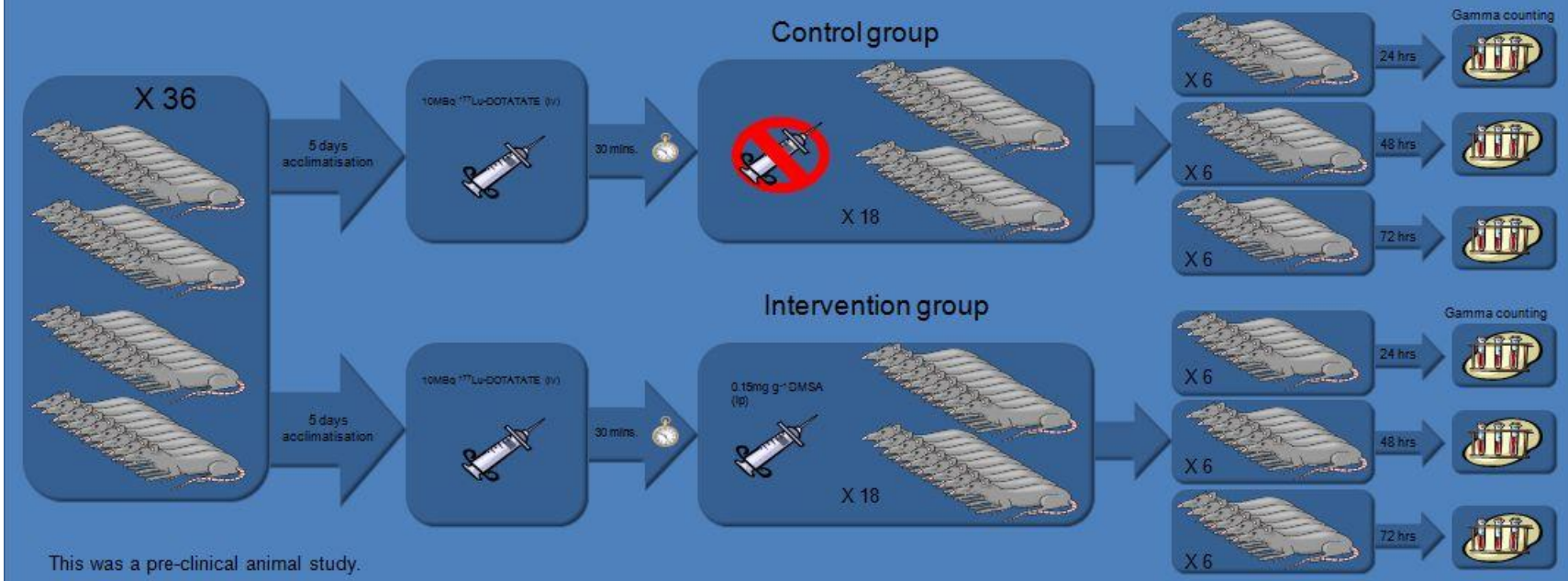
Methods



This was a pre-clinical animal study.

Thirty six 8 week old, male Wistar rats were obtained from the Animal Resources Centre, Murdoch, WA. After five days' acclimatisation in the Fremantle Hospital Animal House all 36 rats were anaesthetised and injected with 10 MBq of ^{177}Lu-DOTATATE *via* the penile vein.

The rats were then randomly placed into the control and intervention groups. Thirty minutes after the injection of the radio-peptide, rats in the intervention group were administered 0.15 mg/g body weight DMSA, *via* an intra-peritoneal injection.

Six rats from the control and 6 from the intervention group were euthanased and tissue samples (Table 1) collected at 24, 48 and 72 hours after the radio-peptide injection .

All procedures were approved by the Animal Ethics Committee of the University of Western Australia and conformed to NH&MRC guidelines.

Samples collected Table 1

Whole organs

Blood (10ml)	Liver	Sml intestine*
Heart	Spleen	Lge intestine*
Lungs	Testes	Muscle#
Kidneys	Stomach*	Bone#

*Contents removed #From hind legs #Femora & tibia

Results

The three figures to the left show the mean and standard deviation of the uptake of radioactivity in each of the sampled organs in the control and intervention groups.

As expected, the kidneys showed the highest uptake of all organs. A reduction in uptake by at least one standard deviation was observed in the kidneys at 24 hours for the intervention group, while only negligible differences were observed in the uptake by other organs.

At 48 hours the observed reduction in renal uptake was negligible.

At 72 hours a reduction of at least one standard deviation was again observed.

Table 2 shows the statistical significance of the observed difference in the mean renal uptake between the control and intervention groups at each time point. In addition, the percentage reduction attributed to the DMSA together with the 95% confidence intervals (CI) are also shown.

The intervention group had a mean reduction of 8.5% at 24 hours and 15.6% at 72 hours.

As indicated in Table 2, the reduction in the mean renal uptake at 72 hours was statistically significant at the 5% level.

Renal Biodistribution Table 2

The effect of DMSA on total renal uptake (%ID/g) of ^{177}Lu DOTATATE

		Mean	95% CI		sig[a] (two sided)	sig[b] (one sided)	%[c] (reduction)	95% CI
24 Hrs	Control	3.684	2.954	4.413	0.417	0.208	8.5	6.9 - 9.7
	Intervention	3.369	2.752	3.986				
48 Hrs	Control	3.326	2.876	3.775	0.940	0.470	0.5	-3.6 - 3.6
	Intervention	3.309	2.980	3.639				
72 Hrs	Control	2.782	2.271	3.294	0.061	0.030	15.6	2.6 - 24.6
	Intervention	2.348	2.213	2.482				

[a] p value testing the null hypothesis that there was no difference between the mean renal uptake in the control and intervention groups.
[b] p value testing the null hypothesis that the mean renal uptake in the control group was not greater than the mean renal uptake in the intervention group.
[c] Percent reduction in the renal uptake of the intervention group compared with that in the control group.

Some examples of Posters

Pre-Clinical Evaluation of *meso*-2,3 Dimercaptosuccinic Acid (DMSA) as a Radiation Nephrotoxicity Protective Agent during Radio-Peptide Therapy of Neuroendocrine Malignancy

Dr Rachael Moorin PhD[1], Dr Danielle Meyrick PhD[2,3] & Dr Alison Rose PhD[3]

[1]School of Population Health, The University of Western Australia, [2]School of Biomolecular, Biomedical and Chemical Sciences, The University of Western Australia, [3]Dept. of Nuclear Medicine, Fremantle Hospital

Introduction

Radiometal-conjugated peptides in radiotherapy

Radiometal-conjugated peptides such as ^{90}Y-DOTA-octreotide and ^{177}Lu-(Tyr3)-DOTA-octreotate (^{177}Lu-DOTATATE) have great potential in radiation therapy of tumours expressing somatostatin receptors. At therapeutic radio-peptide doses, however, renal uptake and prolonged retention lead to renal radiation toxicity. This is the major dose-limiting factor in peptide receptor radionuclide therapy (PRRT).

Several strategies have been employed in efforts to optimise the tumour radiation dose whilst sparing injury to the kidneys. These have included the use of alternative chelators, peptides and radiometals, calculation of individualised maximum safe renal dose and attempted manipulation of the interaction of the radiometal-peptide conjugate at the cellular level within the kidney.

Current clinical protocol

Selective reduction of the renal radiation dose by infusion of high doses of mixtures of cationic amino acids (most commonly lysine and arginine) has recently been achieved in PRRT protocols [1]. This strategy is able to reduce the radiation dose to the kidneys by 20 to 40%. This method, however, is not without its drawbacks.

During amino acid infusion, a relatively high proportion of patients suffer profound nausea and vomiting. There is also a significant risk of inducing haemodynamic instability in patients with cardiac disease. Furthermore, large quantities of amino acids may cause metabolic changes such as hyperkalaemia in some patients, which may result in cardiac arrhythmias and death.

The discomfort and risks associated with amino acid infusion, together with the desire to further reduce the radiation dose to kidneys, are driving forces for the development of alternative strategies.

Rationale for the study

The infusion of amino acids reduces the radiation dose to the kidneys by minimising tubular reabsorption.

An alternative method may be to remove the radiometal from the intact radiometal complex after it is taken up by the kidney. The resulting complex would then be excreted *via* the urine. This radiometal removal strategy may be achieved by chelation of the metal by a chelating agent stronger than that in the original complex.

The aim of this study was to evaluate *meso*-2,3-dimercaptosuccinic acid (DMSA) as a potential agent for reducing the radiation burden to the kidneys during radiopeptide therapy according to this method.

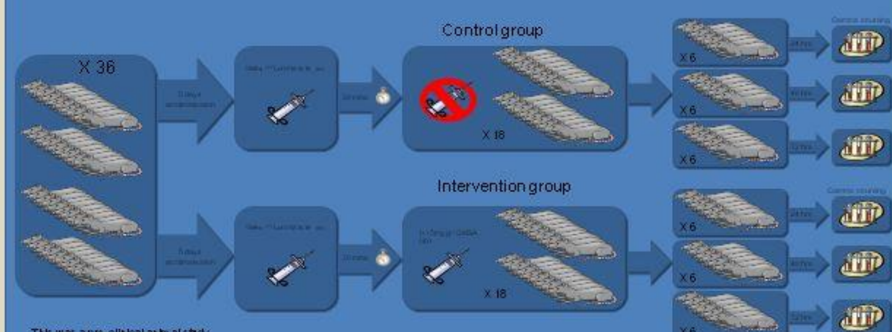
Why DMSA?

In this study DMSA was selected as a chelating agent for investigation. Whilst ^{99m}Tc-labelled DMSA is currently used as a routine diagnostic imaging agent, it was originally developed as a safe non-toxic antidote for heavy metal nephrotoxicity.

DMSA preferentially removes mercury and lead from the kidney. It has also been used to prevent nephrotoxicity during chemotherapy with platinum based agents, again by removal of the platinum from the kidneys. Furthermore, studies have shown that excess DMSA *in vivo* saturates kidney uptake mechanisms but does not affect urinary clearance. It is readily available, relatively inexpensive and non-toxic at the high doses required.

Although a consideration of the principles of coordination chemistry reveals that DMSA may not form a particularly strong complex with Lu^{3+}, it was hoped that this study would provide proof-of-principle for the applicability of chelating agents in reducing the renal radiation burden during PRRT.

Methods



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Samples collected (Table 1)

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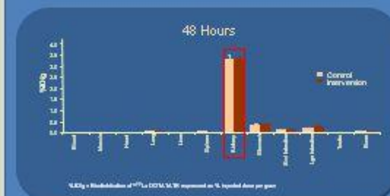
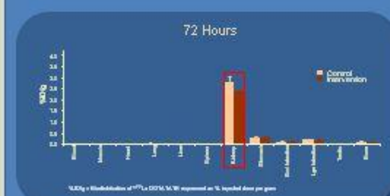
Lungs	Testes	Muscle†
Kidneys	Stomach*	Bone‡

*Contents removed †From hind legs ‡Femurs & tibia

Results





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As expected, the kidneys showed the highest uptake of all organs. A reduction in uptake by at least one standard deviation was observed in the kidneys at 24 hours for the intervention group, while only negligible differences were observed in the uptake by other organs.

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The intervention group had a mean reduction of 8.5% at 24 hours and 15.6% at 72 hours.

As indicated in Table 2, the reduction in the mean renal uptake at 72 hours was statistically significant at the 5% level.

Renal Biodistribution (Table 2)

The effect of DMSA on total renal uptake (%ID/g) of ^{177}Lu DOTATATE

		Mean	95% CI	sig.† (two sided)	sig.‡ (one sided)	%* (reduction)	95% CI
24 Hrs	Control	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Intervention	[illegible]	[illegible]				
48 Hrs	Control	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Intervention	[illegible]	[illegible]				
72 Hrs	Control	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Intervention	[illegible]	[illegible]				

† p value testing the null hypothesis that there was no difference between the mean renal uptake in the control and intervention groups.
‡ p value testing the null hypothesis that the mean renal uptake in the control group was not greater than the mean renal uptake in the intervention group.
*Percent reduction in the renal uptake of the intervention group compared with that in the control group.

Discussion

The reduction in renal uptake observed in this study at 24 hours and then again at 72 hours is both interesting and promising.

A result at all time points or only one time point would have suggested a direct chelating effect, whereas a reduction at 24 hours & 72 hours but not at 48 hours suggests that two separate mechanisms may be at play.

The unknown mechanism may be somehow related to the excretion and metabolic behaviour of both ^{177}Lu-DOTATATE and DMSA, or due to some interaction of one or both species with the basement membrane of the glomerulus.

This requires further study.

Conclusion

The success of a clinically appropriate dose of DMSA in this study in reducing the renal uptake of ^{177}Lu-DOTATATE is promising.

The results are particularly interesting in view of DMSA being a less than optimal chelating agent for lutetium, suggesting a need to evaluate chelating agents that are more appropriate for this metal.

As for the unexpected dual phase reduction:
The reduction in renal retention observed may not be a direct chelation effect, but may be due to another as yet unknown mechanism – for example, an indirect biological effect brought about by the DMSA. This is an interesting phenomenon that warrants further investigation.

Since completion of this study we have received funding from the Australian and New Zealand Society of Nuclear Medicine to identify and evaluate appropriate chelating agents *via* an analysis of their *in vitro* chemical properties. It is hoped that a single chelating agent or a combination chelating regime can be tailored to suit a range of PRRT protocols.

Acknowledgments

We would like to gratefully acknowledge the support for this project from the Fremantle Hospital Medical Research Foundation.
We would also like to acknowledge the practical assistance of Mr Matthew Pickford and Ms Carla Smith.

[1] Rolleman, E.J., Valkema, R., de Jong, M., Kooij, P.P.M. and Krenning, E.P. Safe and effective inhibition of renal uptake of radiolabelled octreotide by a combination of lysine and arginine. *Eur. J. Nucl. Med.* (2003) 30: 9-15

Self-Initiated Switching between Private and Public Inpatient Hospitalisation in Western Australia 1980 – 2001: An Analysis using Linked Data

RE Moorin[1,2] & CDJ Holman[2], [1]Australian Centre for Economic Research on Health, UWA Campus, [2] Centre for Health Services Research, UWA

Background

Falling private health insurance (PHI) membership, observed since the introduction of Medicare in 1984, was thought to have increased the demand on the public system, prompting the Australian federal government to implement policies aimed at encouraging possession of PHI to take the pressure off public hospitals.

To date, analyses of the effects of policies aimed at supporting PHI in Australia have primarily centred on changes in the proportion of the population covered by PHI. However, changing the proportion of the population covered may not directly translate to increased utilisation and, therefore, reduce pressure on the public system.

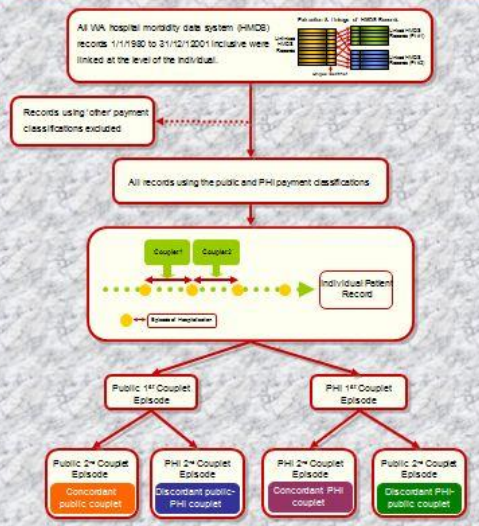
The freedom of individuals to choose between public and PHI, regardless of the status (public or privately insured) of previous hospitalisations or the possession of PHI is protected by the principles of Medicare as set out in the Health Insurance Act of 1973.

We propose that since possession and utilisation of PHI are not equivalent, analysing the effectiveness of the recent government strategies in relieving the pressure on the public system cannot be accomplished by evaluations of changes in possession of PHI alone. Rather, changes in choice, as reflected by patient-initiated switching between the public and PHI payment classifications must be analysed.

Aim of the Study

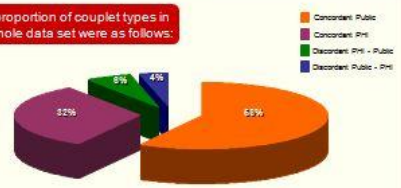
The aim of this study was to identify and measure changes in the behavioural patterns of switching between public and PHI status for hospitalisation by the population of Western Australia using our novel couplet methodology for analysing linked longitudinal data.

Methods



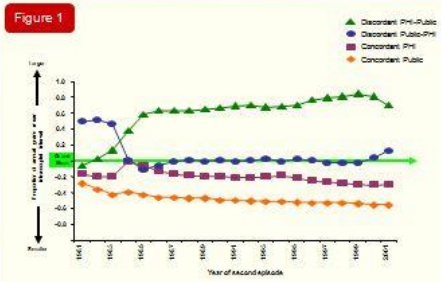
Results

The proportion of couplet types in the whole data set were as follows:



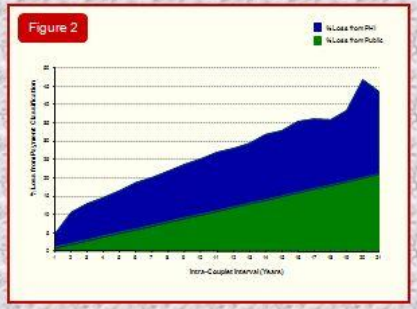
Discordant couplets were consistently associated with the longest intra-couplet intervals (ratio to the average annual grand mean interval being 1.35), while the shortest intra-couplet intervals were associated with public concordant couplets (0.5). See figure 1.

Figure 1



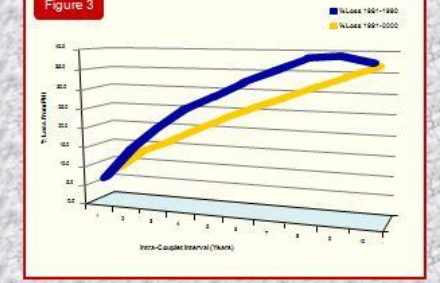
Privately insured patients were more likely to switch payment classification at their next admission compared with public patients (the average rate of loss across all age groups being 0.55% and 2.16% respectively). See figure 2.

Figure 2



In all age groups, the average rate of loss from PHI was greater between 1981 and 1990 compared with that between 1991 and 2001 (3.45% and 3.10% per year respectively). See figure 3.

Figure 3



Conclusion

A small but statistically significant reduction in rate of switching away from PHI over the latter period of observation indicated that health care policies encouraging uptake of PHI implemented in the 1990s by the federal government had some of their intended impact on behaviour.

The Radiopharmaceutical Chemistry Laboratory – Radioisotopes in Medicine

Danielle P. Meyrick[a] and Joanne Thompson[b]
[a] School of Biomedical, Biomolecular and Chemical Sciences, The University of Western Australia, [b] Department of Nuclear Medicine, Fremantle Hospital, Western Australia

Contact details:
Dr. Danielle Meyrick

The primary focus of the radiopharmaceutical chemistry laboratory is the development of radiopharmaceuticals for diagnosis and therapy in nuclear medicine. The laboratory also focuses on the elucidation of the *in vivo* physical chemistry of therapeutic radiopharmaceuticals, with the aim of improving existing therapeutic protocols and outcomes.

What are radiopharmaceuticals?

The majority of radiopharmaceuticals are liquids that are administered intravenously to the patient. Once injected, they localise in particular regions of the body, allowing the function of organs associated with that region to be assessed through analysis of a series of images acquired by a camera. Other diagnostic tests use probes or counters to determine the quantity of radioactivity localizing in an area or in samples taken from the patient.

A radiopharmaceutical consists of two functional components, one of which is radioactive and the other non-radioactive. It is the non-radioactive portion that has an affinity for a particular organ or area of the body, while the radioactive component allows imaging (in the case of a gamma or positron [β^+] emission) or therapy (in the case of a beta negative [β^-] emission). The radionuclide is either chemically bound to or incorporated in the targeting entity.

In the case of a gamma-emitting radionuclide, images are acquired with a gamma camera, whilst images from positron emitting radiopharmaceuticals are acquired by a positron emission tomography (PET) camera. Beta negative-emitting radiopharmaceuticals allow the targeted delivery of therapeutic levels and types of radiation for the management and treatment of conditions such as hyperthyroidism and cancer.

Radiopharmaceuticals are used routinely in hospital nuclear medicine departments for imaging of cardiac, renal and pulmonary function, for example. They are used in the palliation of pain associated with metastatic bone disease and for the treatment of non-Hodgkin's Lymphoma, neuroendocrine tumours and hepatocellular carcinoma, to name a few. There is enormous potential for the development of radiopharmaceuticals for use in therapeutic applications in particular.

Which radioisotopes are used?

There are a number of factors that determine the suitability of a radionuclide for use in a radiopharmaceutical. In the case of diagnostics in nuclear medicine, the radionuclide must have a gamma emission. Secondly, it must be able to react with and bind to the targeting entity without changing the affinity of the molecule for the bodily region of interest. Furthermore, the kinetics of this binding reaction must be rapid. The resulting chemical species must be stable under physiological conditions. Thirdly, the radioisotope must have a gamma emission of an energy suitable for imaging. Finally, the isotope must be readily available.

The most widely used radioisotope used in diagnostic nuclear medicine is ^{99m}Tc. Technetium is a transition metal and therefore has 'flexible' redox and coordination chemistry. ^{99m}Tc has a half-life of about 6 hours and has a gamma emission of suitable energy for imaging.

Therapeutic radioisotopes include ^{131}I, ^{153}Sm, ^{177}Lu, ^{188}Re. In general, these isotopes are suited to different purposes.

Radioisotopes are produced by nuclear reactors and cyclotrons. Generally speaking, the isotopes produced by reactors are different to those produced by cyclotrons. Cyclotrons are typically used for the production of short-lived radioisotopes, most notably fluorine-18, to be used for PET imaging. A cyclotron is housed at Sir Charles Gairdner Hospital (http://www.scgh.health.wa.gov.au/pet/cyclotron.html). This facility routinely produces PET radiopharmaceuticals.

Reactor-produced radioisotopes are generated in Australia at the Australian Nuclear Science and Technology Organisation (ANSTO) at Lucas Heights in Sydney (http://www.ansto.gov.au). Isotopes with long half-lives may also be sourced internationally.

Images of Sir Charles Gairdner Cyclotron installation

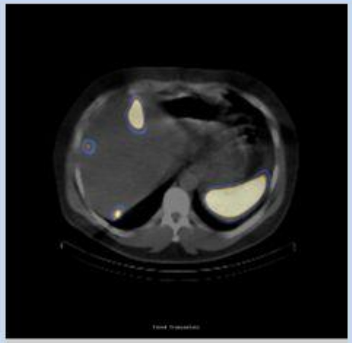
Example radiopharmaceuticals and images:

Therapeutic Lu-177:

Through collaboration with Erasmus Medical Centre in Rotterdam, The Netherlands and an affiliation with the Department of Nuclear Medicine at Fremantle Hospital, this laboratory has been involved with the trial of an agent for the treatment of neuroendocrine tumours – ^{177}Lu-DOTA-(tyr3)-octreotate.

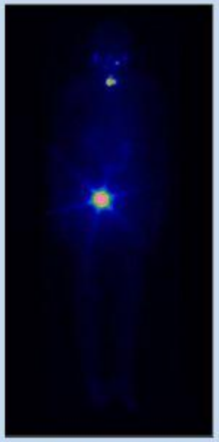
This is a radiopeptide that can be selectively delivered to tumours through exploitation of the over-expression of somatostatin receptors on the surface of neuroendocrine tumours. The agent shows excellent selectivity for tumours, with minimal uptake in non-target organs, other than the kidneys. The kidney is the dose-limiting organ.

This laboratory is exploring chemical ways of improving treatment outcomes and minimising kidney uptake and retention.



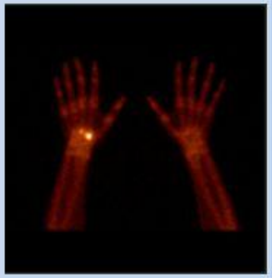
Fusion of ^{177}Lu-DOTA-(tyr3)-octreotate SPECT and CT images. 42 y.o. male treated with ^{177}Lu-DOTA-(tyr3)-octreotate for liver, bone and lung metastases from a primary carcinoid tumour of the colon. Co-registered SPECT-CT imaging of the abdomen demonstrates the peptide avid lesions within the liver (orange areas).

Therapeutic/Diagnostic I-131

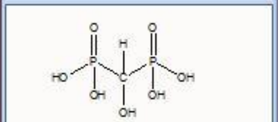


I-131 wholebody scan: 70 y.o. female treated with I-131 for papillary thyroid cancer in the neck. Whole body imaging following therapy found a second tumour in the ovary. This tumour was identified as follicular thyroid tissue.

Diagnostic Tc-99m



^{99m}Tc-HDP scan: 50 y.o. female presented with right wrist pain following trauma and normal plain X-ray. Bone imaging demonstrated a fracture of the right trapezoid.



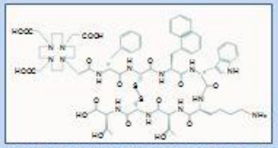
Hydroxymethylene diphosphonate (HDP)

Therapeutic Re-188

Re-188 is a radioisotope with great potential as a therapeutic agent. Importantly, it is more readily available than other agents used for therapeutic purposes, and there is particular interest in developing Re-188 radiopharmaceuticals for use in developing regions of the globe. Up to now, Re-188 has been used in the treatment of hepatocellular carcinoma and rheumatoid arthritis, and this laboratory is pursuing the development of novel agents.

Diagnostic/Therapeutic Cu-64

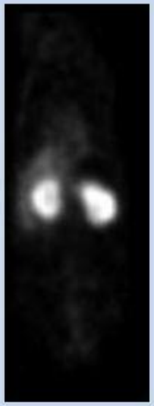
Copper radionuclides have diverse nuclear properties with half-lives ranging from ten minutes to 62 hours and decay by β^+, β^- and γ emission.



DOTANOC – an analogue of native somatostatin that may be used for the delivery of diagnostic and therapeutic radioactivity to tumours of neuroendocrine origin.

The two longest-lived copper radioisotopes, Cu-64 and Cu-67, are the subject of investigations in tumour imaging and therapy. This laboratory has recently prepared ^{64}Cu-labelled peptides as potential PET agents. The ^{67}Cu counterparts have potential as therapeutic agents. The biodistribution of one of these agents – ^{64}Cu-DOTANOC – in the rat has been determined.

Work on these agents continues.



Biodistribution of ^{64}Cu-DOTANOC in a rat, showing no retention in healthy organs, other than the kidneys.

The Future

Radiopharmaceutical chemistry is an exciting field where chemistry, physics, pharmacy and medicine intersect.

If you have an interest in the application of inorganic/physical and/or organic chemistry to the development of pharmaceutical agents – either diagnostic or therapeutic – contact us.

We have honours and PhD projects available, and also offer summer vacation scholarships. We can even help you obtain paid work experience as a radiochemist or radiopharmacist.

Affiliations and Collaborations:

School of Population Health, University of Western Australia
Department of Nuclear Medicine, Fremantle Hospital and Health Service
Medical technology and Physics, Sir Charles Gairdner Hospital
Laboratory of Nuclear Medicine, University of Ferrara, Italy

Funding bodies:

Australian Institute of Nuclear Science and Engineering
Australian and New Zealand Society of Nuclear Medicine

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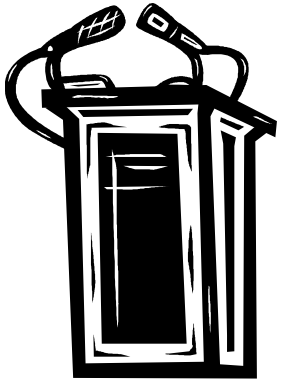
Oral Presentations



Why do an Oral Presentation?

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- A very good way to publicize your research
  - Allows you to talk directly to your target audience
    - Clinicians, other NMT's, Policy makers….
- Feedback gained during question time
    - View this as positive
    - Can be valuable prior to further studies / Journal article
- Become recognised within the profession
  - Actively participate in development of practice
  - Networking
- Can also be achieved with a Poster
  - But OP's holds audience attention for 7-10mins !!

Tips for Oral Presentations

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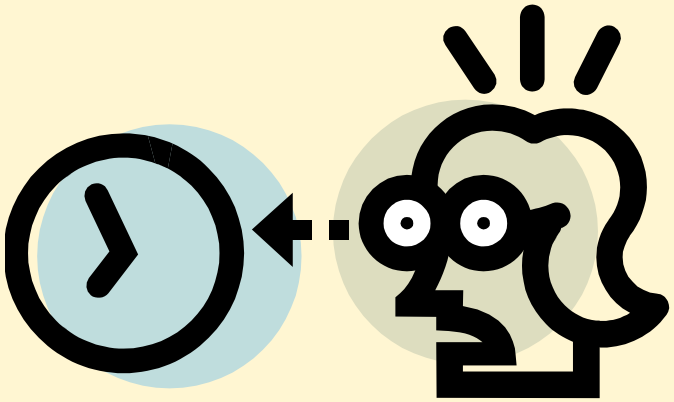
- Factors to consider
  - Your topic
  - Your audience
  - Time available
- Use appropriate
  - Depth
  - Pace
  - Language
- KISS (keep it simple stupid)
  - Do not over complicate things
  - Do not clutter your talk
    - Get bogged down with detail



Tips cont.

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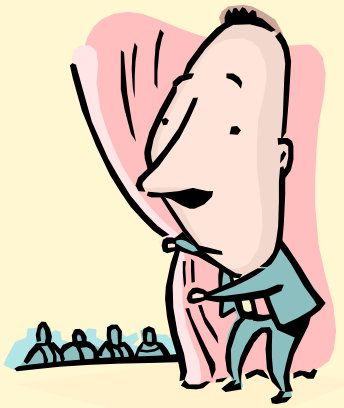
- Do not simply read notes / slides
  - Make eye contact with audience
    - Engage your audience
  - Have a clear structure (Logical)
- Slides are visual aids NOT a script on a wall
  - Avoid large blocks of text
  - Short phrases
- Graphics!!
    - Use whenever possible
    - And even when you think its NOT!
    - Be CREATIVE
- Take the time to prepare
    - Slides
    - Talk



Structure

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- Research presentation
  - Intro/ Background
  - Aims
  - Methods
  - Results
  - Discussion
  - Summary/Conclusion

- Case study
  - Intro/ Background
  - Methods (Imaging parameters)
  - Results
  - Discussion
  - Summary/Conclusion

Introduction / Background

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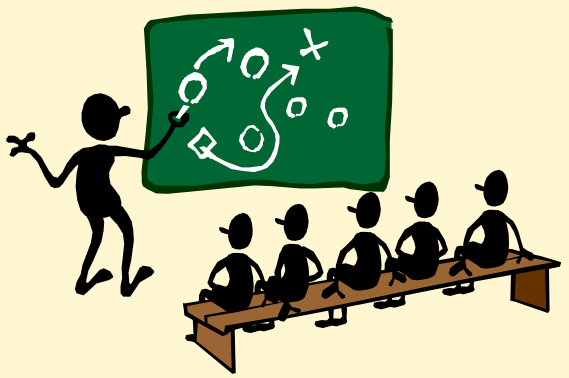
- Broad background
  - Set the scene
  - Do not assume the audience knows the topic
- Rationale
  - Why did the question arise
  - Justify your project



- Aims / objectives etc
  - Present clearly on a separate slide
  - May need more than one slide if several objectives

Methods

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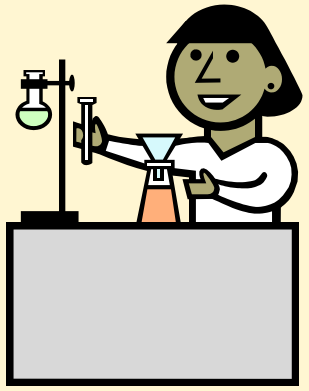
- Step –wise order
  - Overview – case- control , descriptive, etc
  - Who did you sample?
  - When? Where ? How many?
  - How did you measure the outcome?
  - How did you measure the exposure?
  - How did you measure any other variables?
  - Statistical analysis



- Avoid fine detail <u>unless essential</u>
  - Use visual aides eg flow charts

Results

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- Only those relevant to the objectives that you are presenting
  - You may not be able to present ALL your project
  - You only have a very limited time
- Visual clarity essential
  - Use figures rather than tables where possible

Discussion (dependent on time allotted)

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- Appropriateness of methods
  - Strengths and limitations etc
- Results versus objectives
  - Succinctly sum up what you found
- Results versus other research
  - Similarities / differences
- Implications
  - For practice
- Future work
  - What do you recommend

Summary / Conclusion

- In summary,….. Grab attention!!
- Repeat aims, relevant results and implications

Design issues

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- Text
  - Sans serif font
  - Size – depends on size of projection
    - Needs to be readable at back of room
    - Titles – 24 - 36pt
    - Main text – 18-24pt
- Colour – Unified colour scheme
  - High contrast (light on dark or dark on light)
    - Be wary of garish schemes
  - Use RED sparingly and to highlight
    - V useful to highlight points in a table
    - BUT don't overuse – audience becomes de-sensitised!

Design issues

- Animation
  - Can be V useful but BEWARE
  - DO NOT use slide transitions
    - Can be very distracting !!
  - Text animation
    - Very effective if used sensibly
    - Can allow more info
      - makes slides appear less cluttered
    - BUT – use basic only
      - Complex animation can be VERY distracting
  - Animation in figures and tables
      - To highlight OR reveal elements

Design issues

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- Tables
  - Avoid unless absolutely necessary !!!
  - Use a figure instead if possible

- Do's and Don'ts with Tables
  - Do
    - Make very BASIC
    - KISS
    - Only include info in talk
    - Re-make table in PPT
    - Highlight salient points

  - Don't
    - Cut and paste from Word or Excel
    - USE !!!

Table of Results

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	Male			Female			Total		
Age group (years)	n	%	rate*	n	%	rate*	n	%	rate*
0 - 4yrs	492	33	78	363	39	60	855	35	69
5-9yrs	496	33	73	363	39	56	859	35	64
10-14yrs	508	34	70	206	22	30	714	30	51
Total	**1496**	**62**	**73**	**932**	**38**	**48**	**2428**	**100**	**61**

Figure – same info

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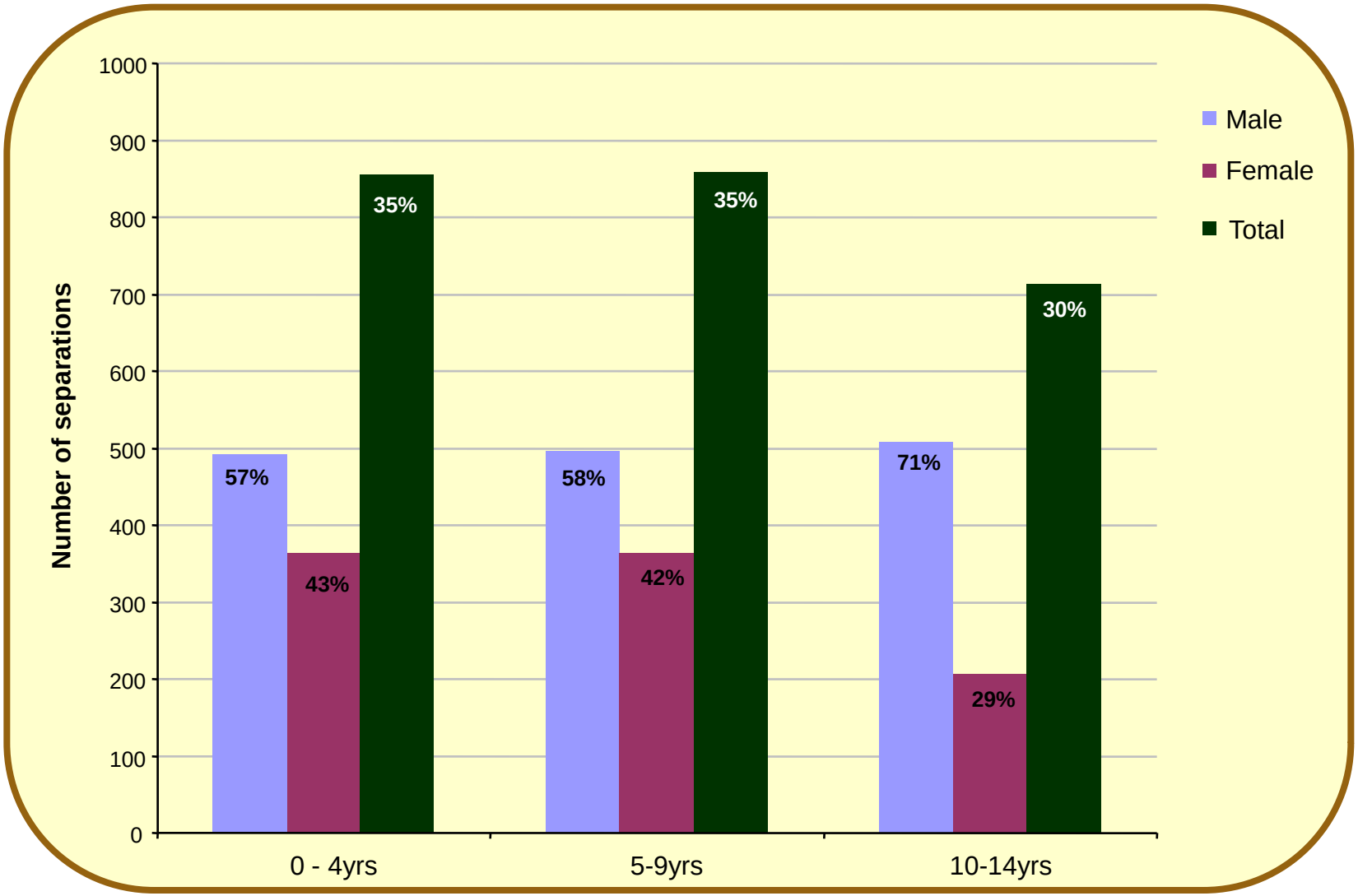

Figure – same info with animation

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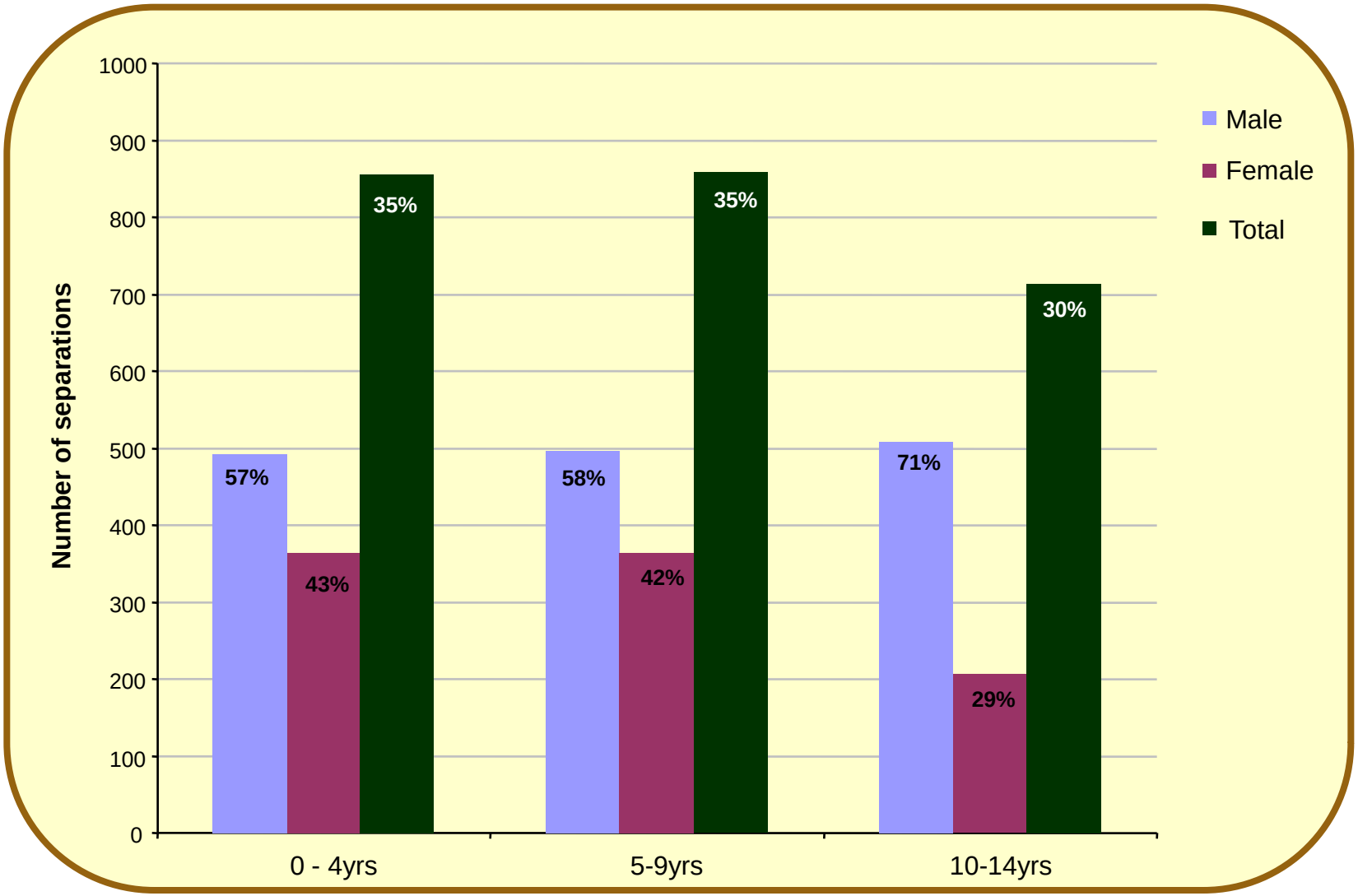

Using a table format as a figure

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Rank*	Age group		
	0 – 4 yrs	5 – 9 yrs	10 – 14 yrs
1	**Fall same level 31.9**	**Playground equipment 21.1**	**Fall same level 19.1**
2	**Fall two levels 13.4**	**Fall same level 17.8**	**Fall two levels 10.4**
3	**Unspecified fall 12.8**	**Fall two levels 13.3**	**Pedal cycle, ice skates, skis, roller skates/blades 10.3**
4	**Playground equipment 9.4**	**Unspecified fall 7.6**	**Unspecified fall 6.0**
5	**Pedal cycle, ice skates, skis, roller skates/blades 1.3**	**Pedal cycle, ice skates, skis, roller skates/blades 4.6**	**Playground equipment 5.0**

*** Ranked by rate of separation per 10,000 popn**

Design issues

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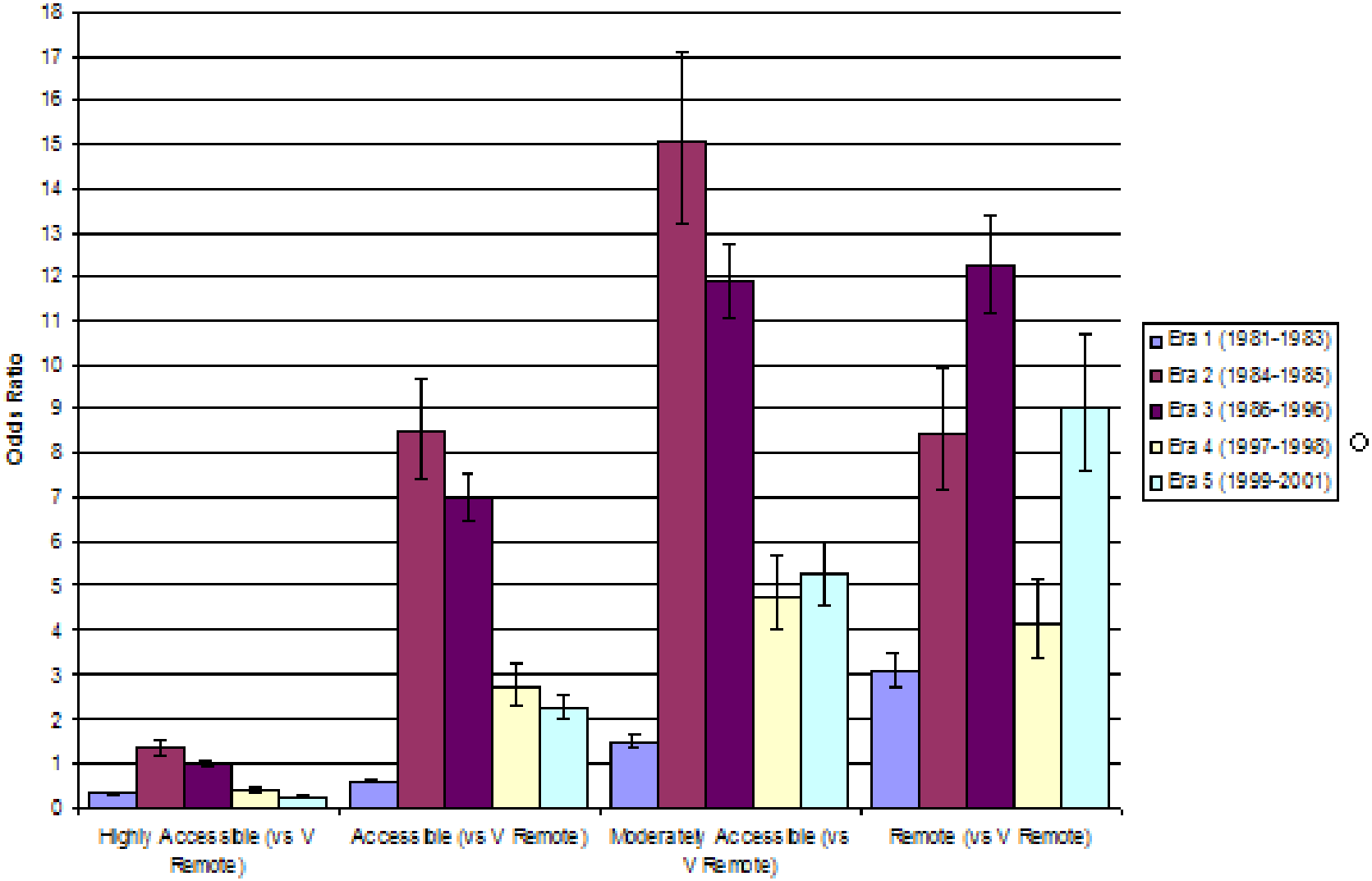
- Figures
  - KISS
  - Make them CLEAR (large enough)
    - Axis labels
    - Data points
    - Use animation to enhance elements
  - Import them into PPT
    - Do NOT use straight from Excel
    - Change the style & size of components
    - Remove components to simplify
    - Add components to clarify
    - Change the colour etc of components to highlight
    - These skills are also used in making posters

Original figure from Excel



Enhanced figure for OP's

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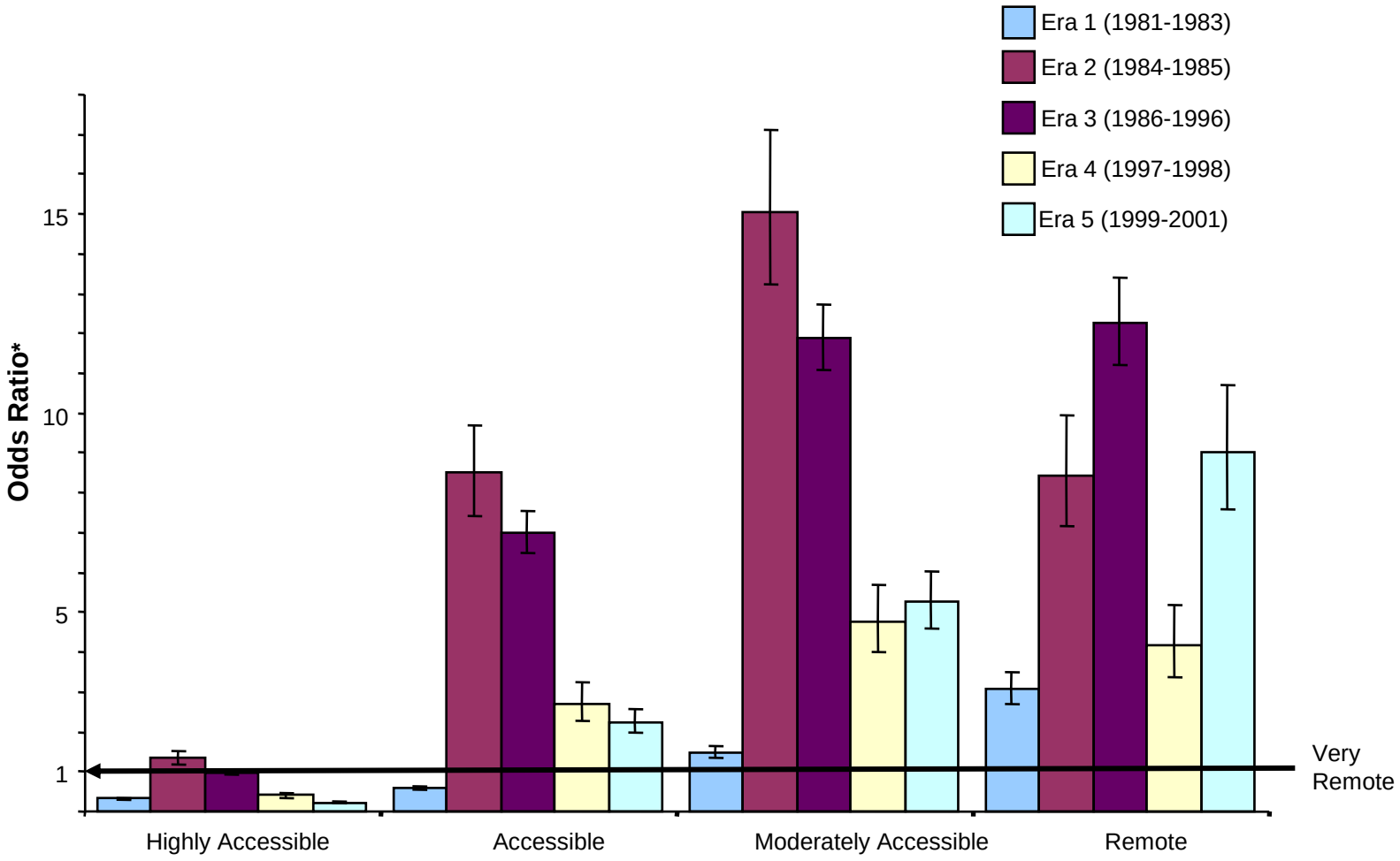


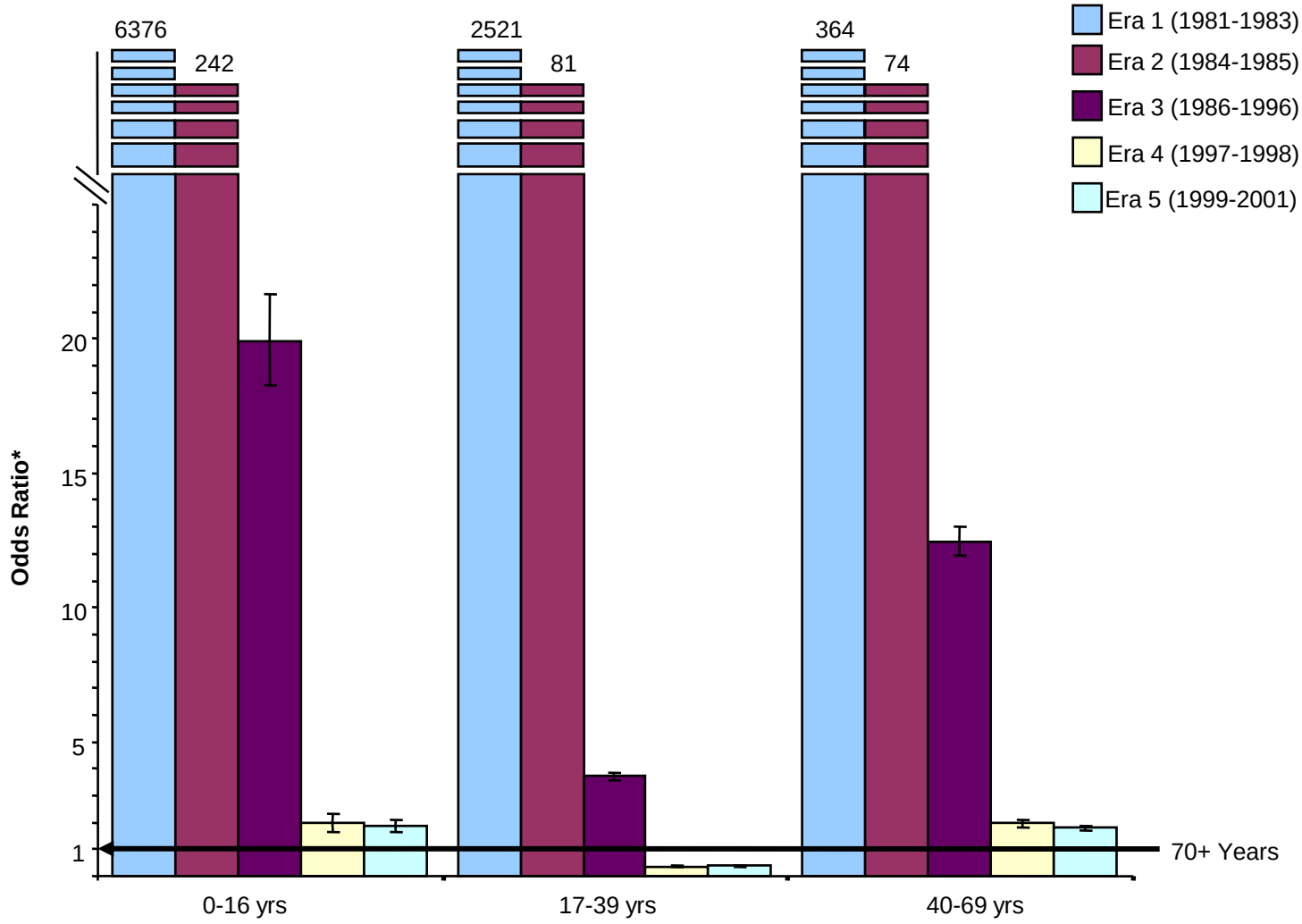
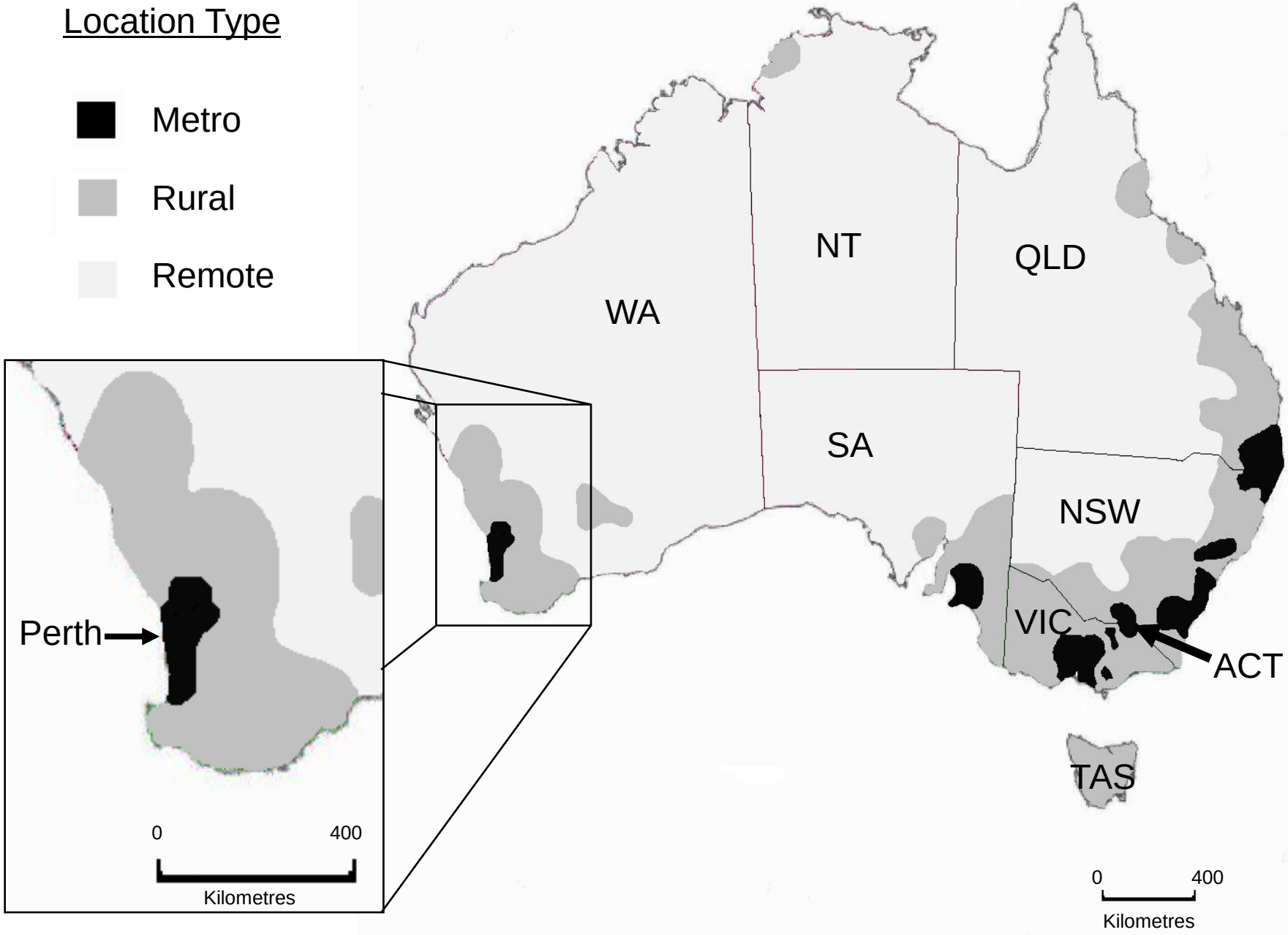
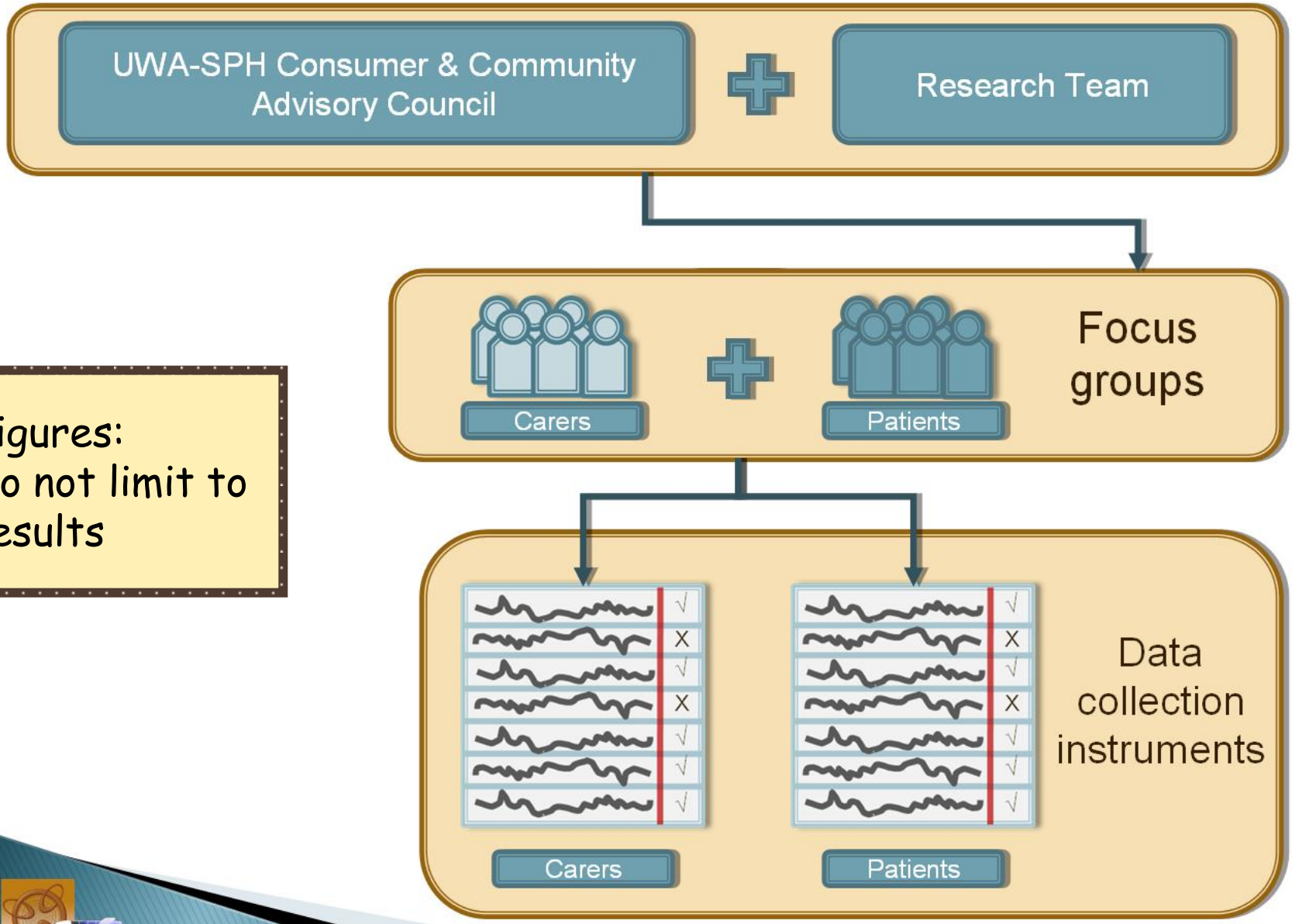

6376
242
2521
81
364
74
Era 1 (1981-1983)
Era 2 (1984-1985)
Era 3 (1986-1996)
Era 4 (1997-1998)
Era 5 (1999-2001)
Odds Ratio*
20
15
10
5
1
70+ Years
0-16 yrs
17-39 yrs
40-69 yrs

Figure 1

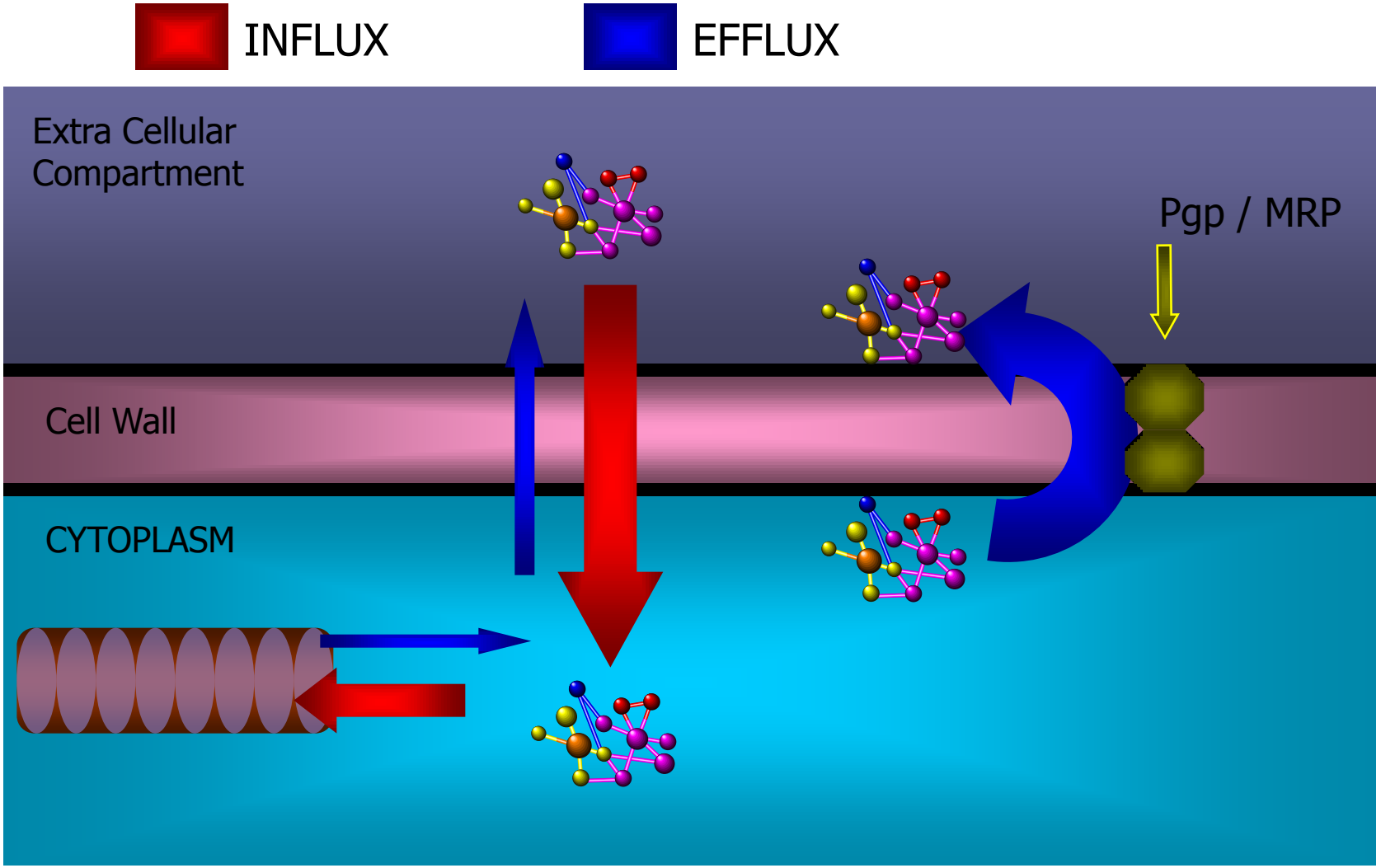

Location Type
Metro
Rural
Remote
WA
NT
QLD
SA
NSW
VIC
TAS
ACT
Perth
0
400
Kilometres
0
400
Kilometres



Figures:
Do not limit to results

Example of an animated figure: Used to explain a concept in the Bkgd

Multidrug resistance: The efflux pump



Happy Presenting !!

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- My contact details
  - Dr Rachael Moorin
  - School of Population Health
  - The University of Western Australia
  - Phone 08 6488 1416
  - Email rachael.moorin@uwa.edu.au

Next workshop: Sunday

Critically reviewing and understanding the literature:

Making informed decisions about what to incorporate into practice