Teaching Evidence Based Health Care – ‘online or face to face’?

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MONASH INSTITUTE
OF HEALTH SERVICES RESEARCH

MBBS at Monash University

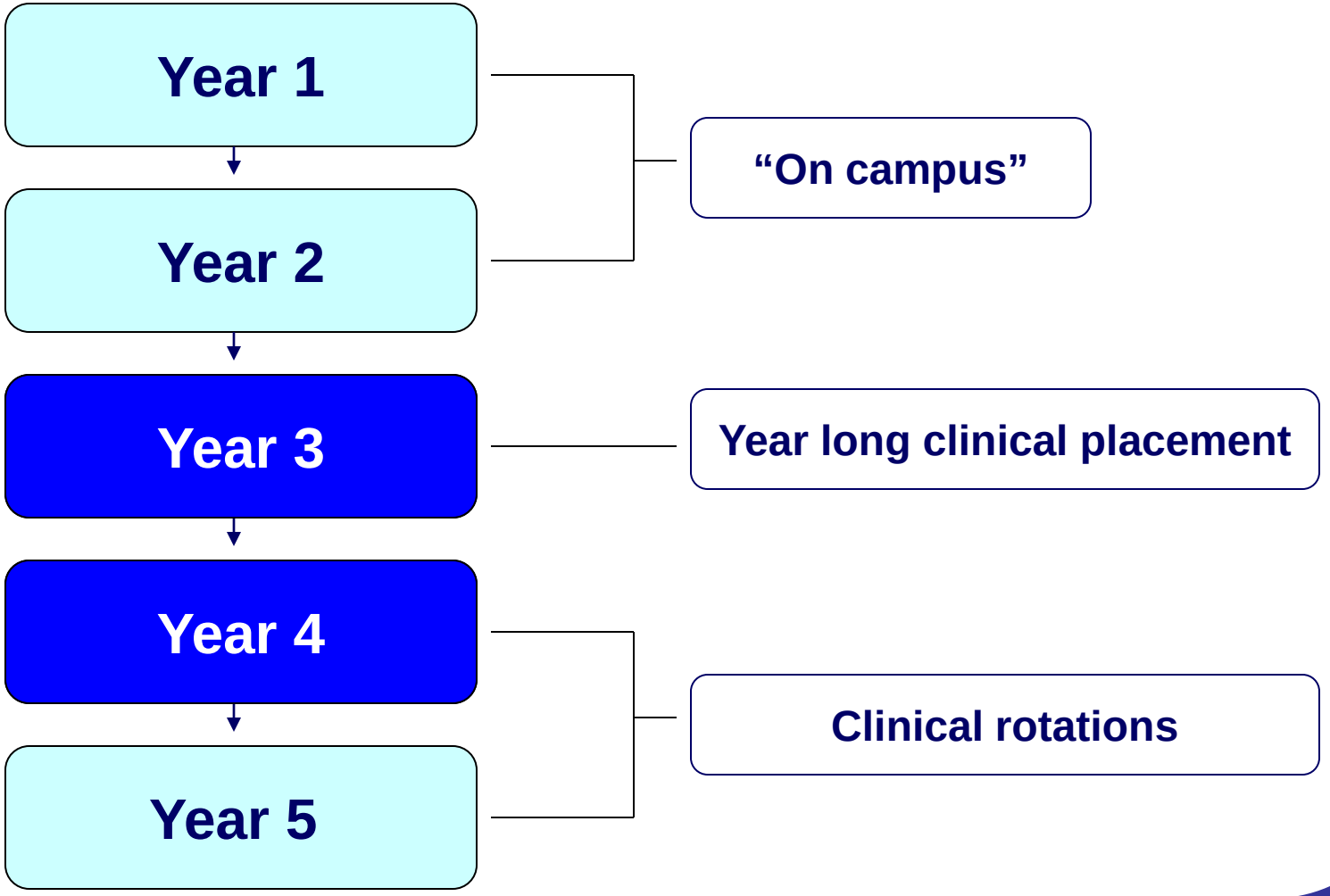
- Monash Bachelor of Medicine/Bachelor of Surgery (MBBS) is a five year undergraduate course
- 2007 – Undergraduate in Australia and Monash Malaysia
- 2008 – Four year Graduate course at Gippsland

MBBS course themes

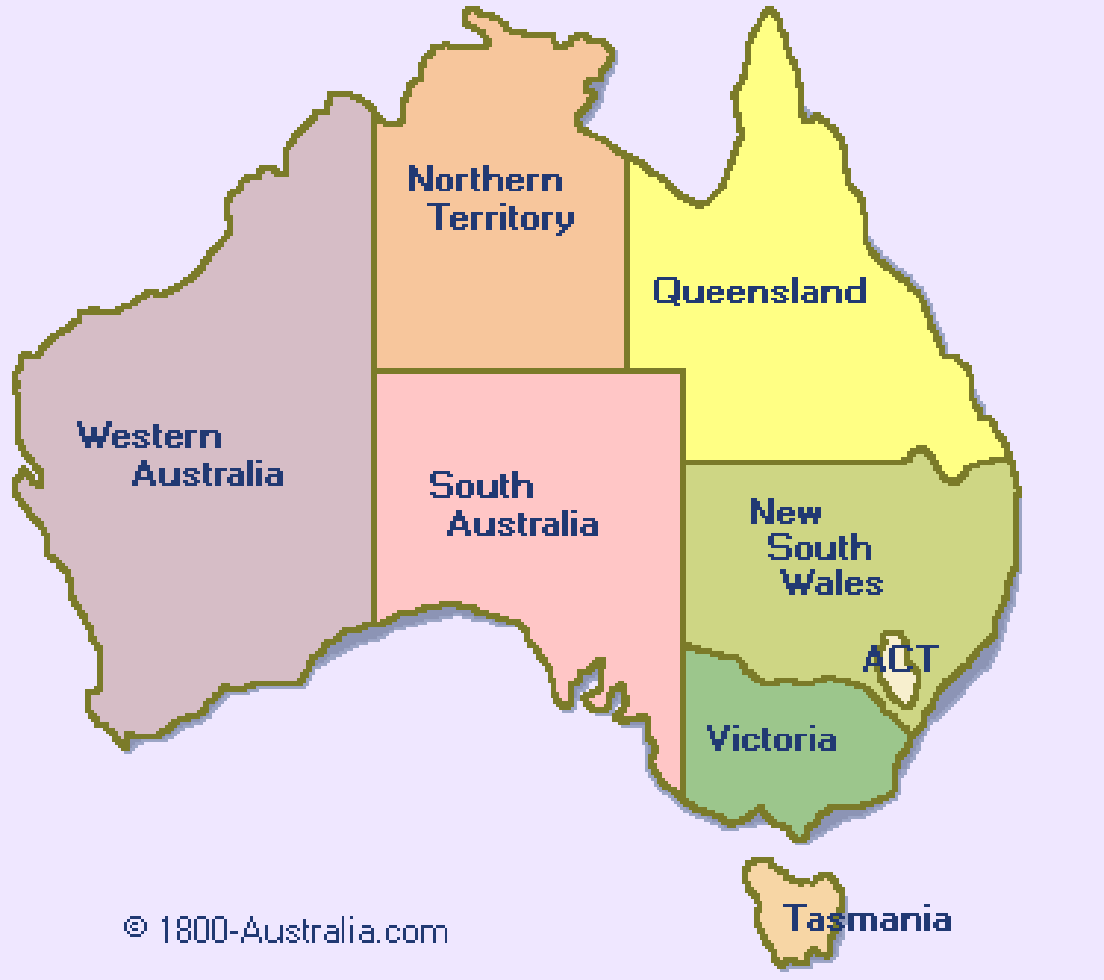
1. Personal and professional development
2. Society, population, health and illness

   Evidence Based Clinical Practice (EBCP)
3. Scientific Basis of Clinical Practice
4. Clinical skills

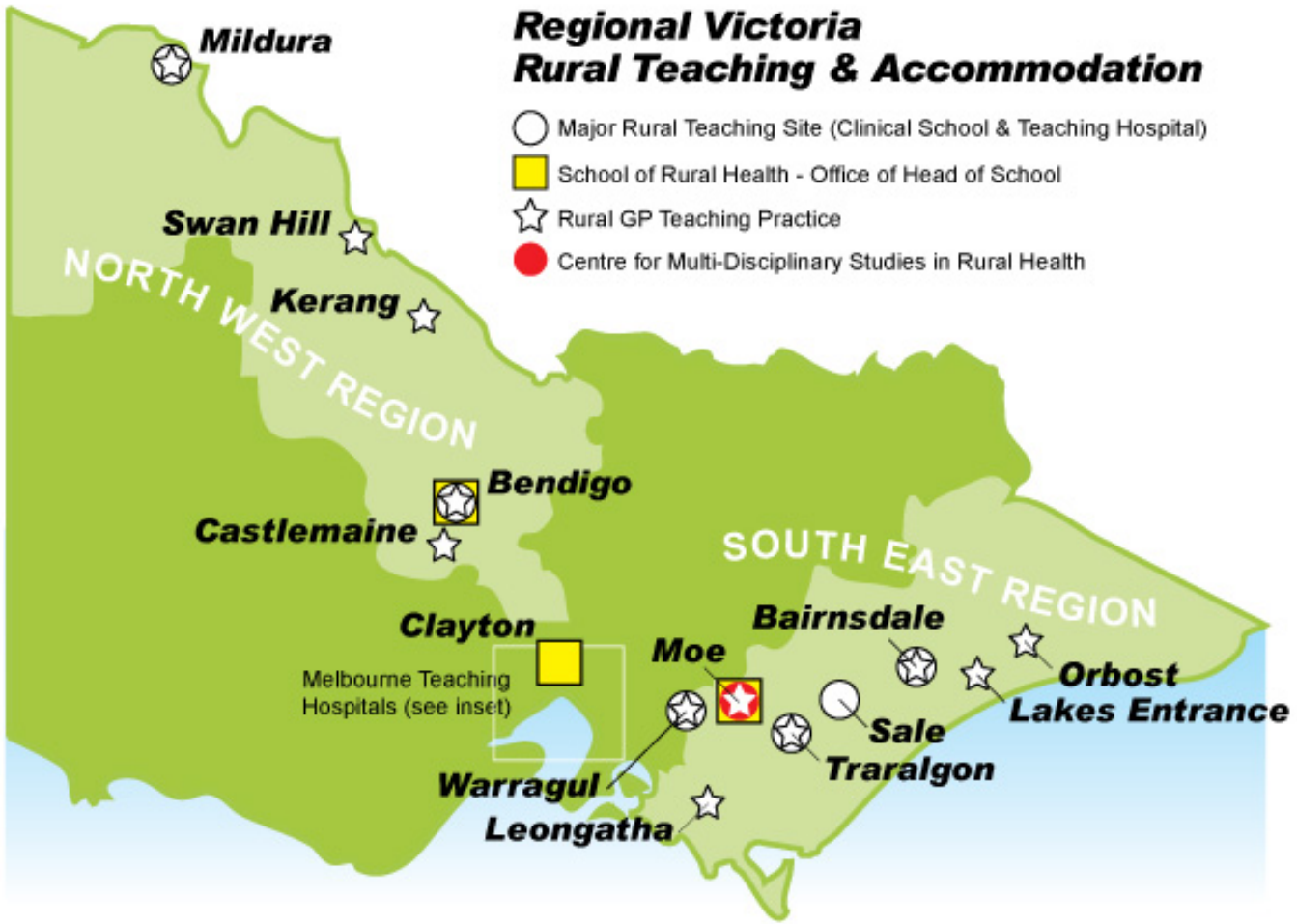
Course structure

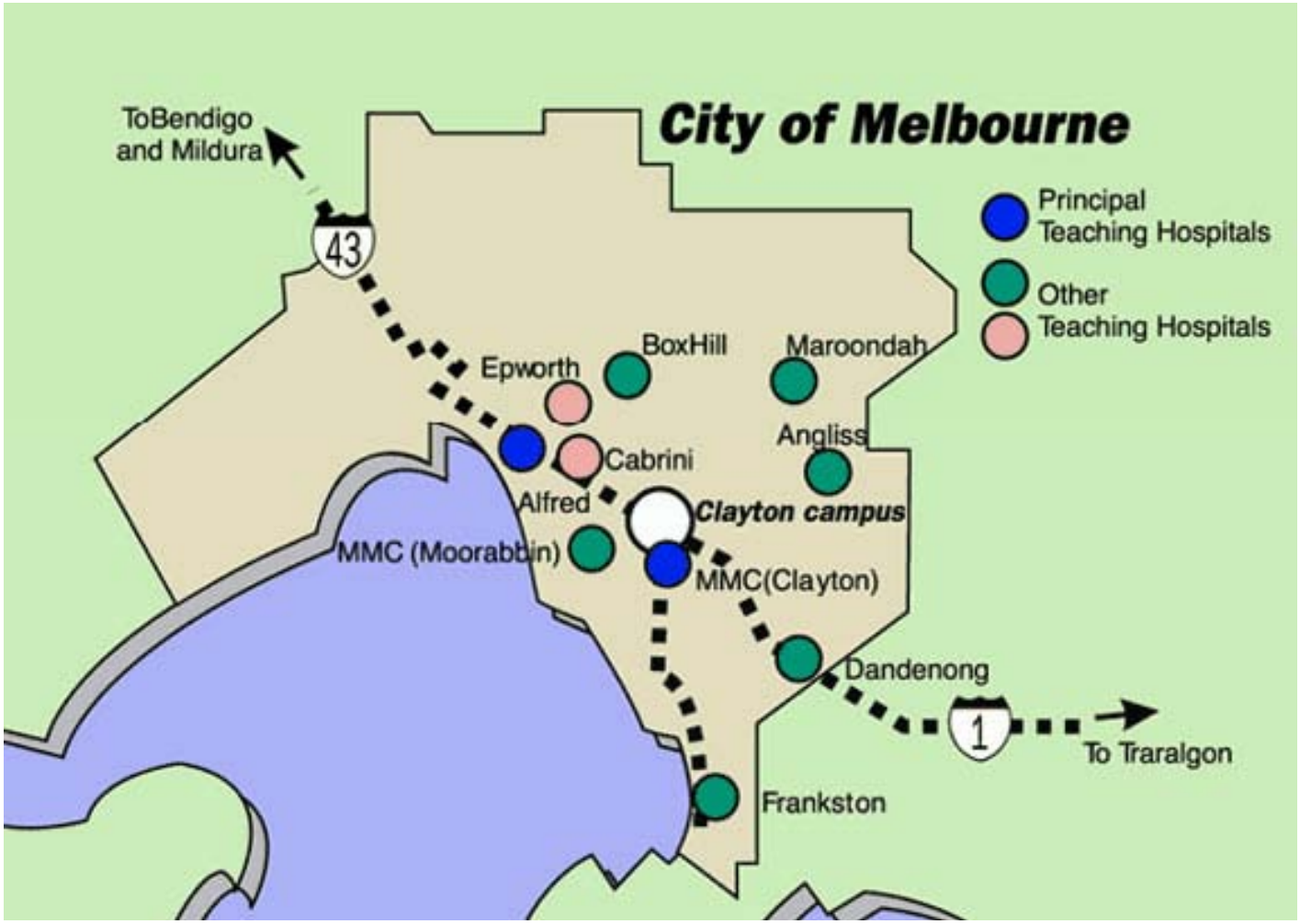


Brushing up on our geography



Brushing up on our geography

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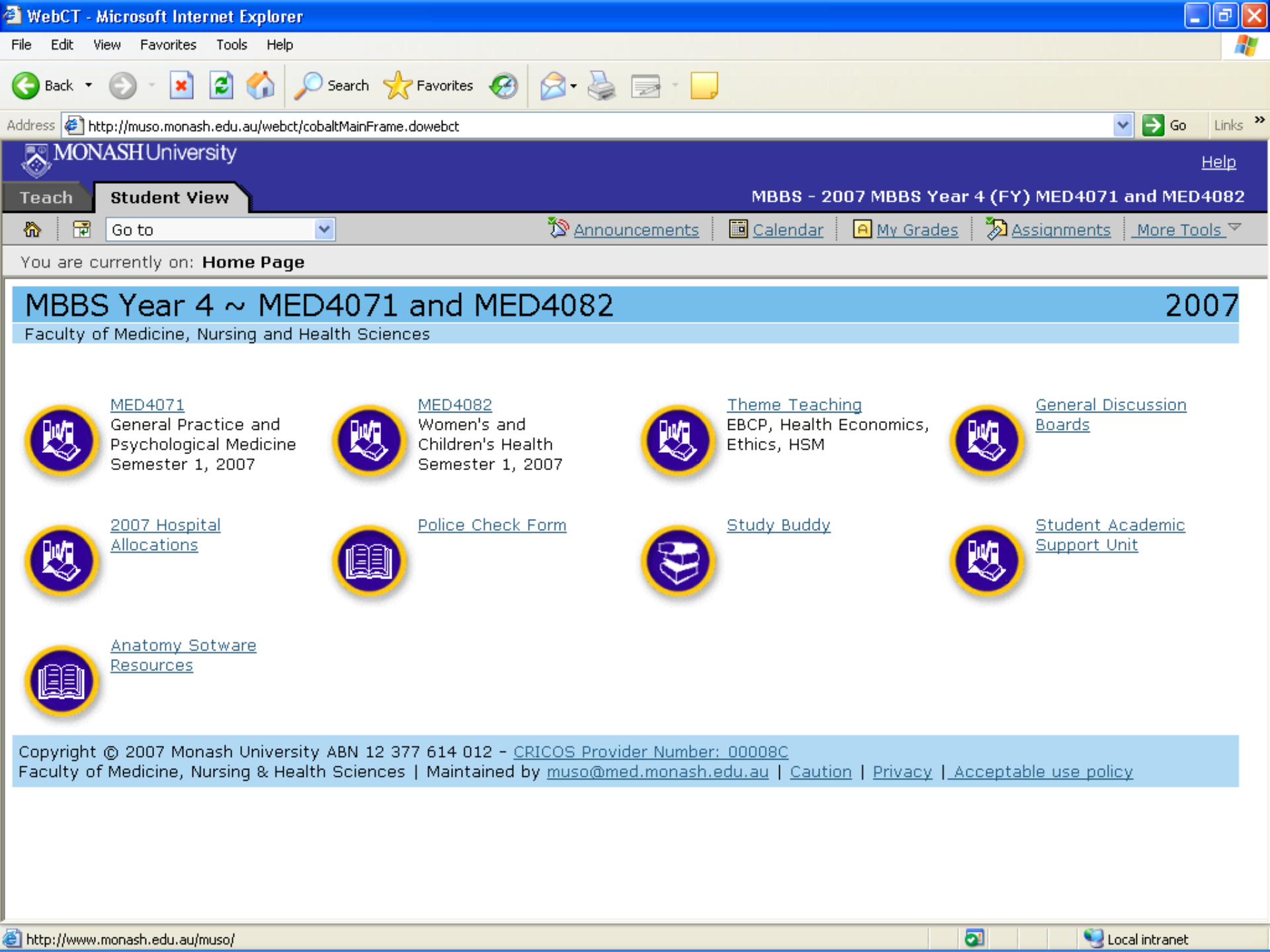
Year 3 outline

- 10 x 2 hour ‘face to face’ tutorials
- Introduction
- ‘Hands on’ database searching
- Formative evaluation
- Therapy, harm, diagnosis, prognosis and systematic reviews

Year 4 outline

- Two semester ‘online’ tutorials
- 4 x 4 week modules per semester
- Evidence into policy and practice
- ‘Workshops’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MED4082
Women's and Children's Health
Semester 1, 2007
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MODULE 1 - OVERVIEW OF NEURAL TUBE DEFECTS

An overview of the early evidence of effectiveness of folate supplementation for prevention of neural tube defects (NTDs).

Index Case Focus: Elena – Neural Tube Defect

There is a great deal of interest in public policy to promote consumption of folic acid by women at risk of pregnancy to reduce the risk of giving birth to a child with a neural tube defect.

TASK 1

Read the following references:

Reference 1
Screening for neural tube defects- including folic acid prophylaxis. U.S. Preventive Services Task Force. Guide to Clinical Preventive Services, 2nd Edition. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 1996. Chapter 42 (click here)
This chapter discusses the burden of disease due to NTD's. The concept of screening for the detection of NTD's including the accuracy of various diagnostic tests, the rationale for early detection (effectiveness of intervention consequent upon detection), and benefits and harms are discussed. It also discusses the evidence concerning folate prophylaxis.

Reference 2
MRC Vitamin Study Research Group. Prevention of neural tube defects: results of the Medical Research Council vitamin study. Lancet 1991; 338:131-7. (click here)
The original Medical Research Council of Great Britain randomised controlled trial, leading to the case for food fortification with folate.

Reference 3
Elwood M. Critical appraisal of a trial of a preventive agent. In, Critical appraisal of epidemiological studies and clinical trials. 2nd Edition. Oxford, Melbourne. 1998. pp 263-282. (click here)
Elwood has taken a critical appraisal tool and undertaken a critical appraisal of the MRC trial in considerable detail.

Reference 4
Table of Epidemiologic studies (From Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR.

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Topic: Sem 1 Module 1 – [redacted]

Date: 23 February 2007 19:03

Subject: Module 1: Question 4

Author: [redacted]

Elwood raises the issue that the MRC trial shows evidence that the addition of folate supplementation reduced the risk of subsequent NTD in mothers who were at high risk. Do you think this evidence supports folate supplementation of the diet of all women, including those who may be at low risk (i.e., those without a prior history of a birth affected by NTD?)?

This evidence alone isn't very convincing when we change the population to mothers who are at low risk for having infants with neural tube defects. Some of the information is useful, such as: there was no harm from the folic acid supplementation, although the study does concede that the ability of the study to detect rare or slight adverse effects was limited. Given that the dose generally recommended to women at low risk for infants with NTDs is much lower than the dose given to prevent NTDs in high-risk women, would suggest even less chance of harm in low-risk women. That is, minimal or no harm. As for whether there is any point giving it, there are many studies supporting these findings. In a RCT in Germany, where low-risk women took supplements taken for at least one month before conception, the supplements had a complete protective effect (0 NTD pregnancies in 2,104 supplemented women).

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Name	Author	Date
Module 1: Question 4	[redacted]	23 February 2007 19:03
Comment: Module 1: Question 4		2 March 2007 13:07
Re:Module 1: Question 4		2 March 2007 14:45

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Topic: Sem 1 Module 1 – [redacted]

Date: 2 March 2007 13:07

Subject: Comment: Module 1: Question 4

Author: [redacted]

Yes, I agree with you where the study about folate supplement for pregnant women is quite vague and it is hard to draw a clear line between women with high risk and women with low risk of neural tube defect. For my opinion there is no harm of advising pregnant women to take folate supplement as they also mentioned in the article that the adverse effects were limited. Even you can get folate supplement from dietary basis. Furthermore, neural tube defect in babies is very distressing problem and many complications can arise from it in the future. So, if there is slight chances to prevent it or reduce the possibility of having NTD by taking folate, and there is limited harm of doing so, might as well just go for it.

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Module 1: Question 4	[redacted]	23 February 2007 19:03
Comment: Module 1: Question 4		2 March 2007 13:07
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Student evaluation

- Quantitative survey of 3rd year → 4th year students
  - 136/235 (58%) 3rd year
  - 127/248* (51%) 4th year
- Qualitative analysis of 4th year student discussions

Evaluation

Activity	3rd yr	4th yr
Asking an answerable question (PICO)	88%	93%
MEDLINE & database searching skills	95%	94%
Measures of effect (RR, RRR, ARR, NNT)	78%	84%
Diagnostic measures (sensitivity/specificity/LRs)	49%	53%

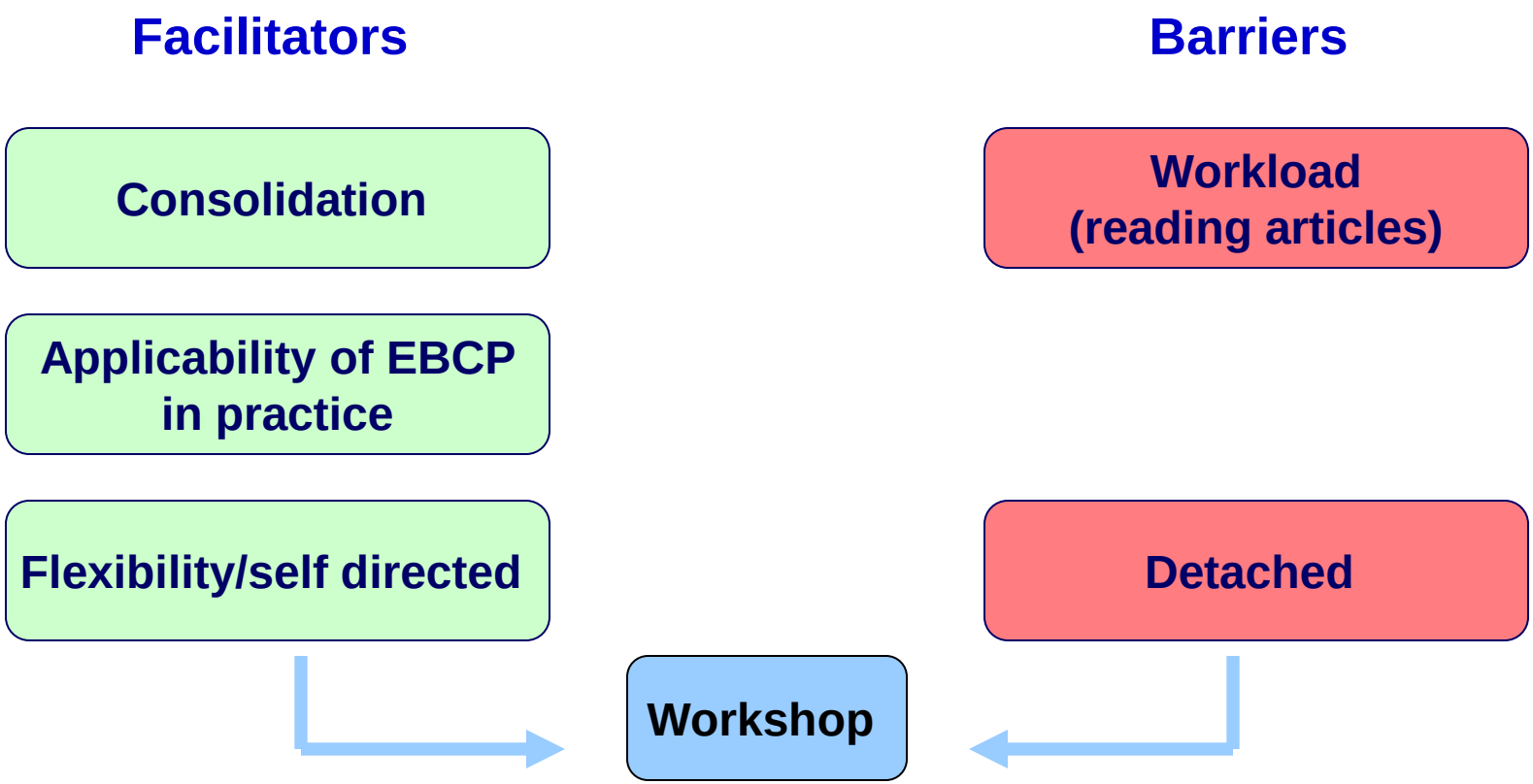
Evaluation

Activity	3rd yr	4th yr
Critical appraisal of ‘therapy’	81%	84%
Critical appraisal of ‘harm’	74%	76%
Critical appraisal of ‘diagnosis’	57%	63%
Workload was reasonable *	78%	44%

Evaluation

Activity	3rd yr	4th yr
Will use EBCP skills in future practice	81%	78%
Used EBCP skills in clinical rotations		47%
Online teaching is a good mode of delivery		51%
‘Workshops’ provide additional reinforcement of online material		84%

Qualitative feedback



Conclusions

- Introduction to EBCP in clinical setting
  - Pre-clinical years are ‘lost’
- Online delivery
  - Workshops
  - Interactive nature of materials
  - Clinical applicability
  - Earlier exposure to ‘online environment’

Thank you

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