

TeachingEBHC.org Editorial Workshop

Douglas Badenoch, Minervation Ltd

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Programme

1. Introduction (DB)
2. Using TeachingEBHC to build a course in EBHC (LA)
3. Hands-on testing (DN)
4. Feedback (All)
5. Wrap-up (DB)

Introduction

At EBHC2017, we decided:

- It was a good idea to build a website of **open access** teaching resources for EBHC
- Members should comment, rate and suggest new ones (their own and others')
- People should be able to create "bundles" for their own use
- The interface should be user-friendly and responsive



Learning Resources Database



Find Resources...

Filter by:

EBM Stage ▼ Key Concept ▼

Target audience ▼ Language ▼ Format ▼

Difficulty ▼

Sort by: Relevancy Display as: List ▼

599 results

Bundles

 Contemporary EBP workshop for clinicians

2 Resources



 Asking answerable clinical questions

5 Resources



Learning Resources Database



[Search](#)

Filter by:

EBM Stage ▼ Key Concept ▼

Target audience ▼ Language ▼ Format ▼

Difficulty ▼

Sort by: Relevancy Display as: List ▼ [Clear](#)

599 results

Bundles

 Contemporary EBP workshop for clinicians

2 Resources



 Asking answerable clinical questions

5 Resources



Launched in November 2018

Learning resources

- 599 learning resources
- 551 from the [CARL database](#)
- 48 added since launch
- User suggestions reviewed by editorial group

Filter by:

- EBM Stage
- [Key Concept](#)
- Target audience
- Language (36 available)
- Format
- Duration

Usage

- 301 members
- c 200 users per week
- Half from from social media, a quarter from search engines
- 7 Bundles
- Top content:
 - [Association is not the same as causation](#)
 - Bundle: [Asking answerable questions](#)
 - [Know Your Chances](#)

Establishing a library of resources to help people understand key concepts in assessing treatment claims—The “Critical thinking and Appraisal Resource Library” (CARL)

John C. Castle , Iain Chalmers, Patricia Atkinson, Douglas Badenoch, Andrew D. Oxman, Astrid Austvoll-Dahlgren, Lena Nordheim, L. Kendall Krause, Lisa M. Schwartz, Steven Woloshin, Amanda Burls, Paola Mosconi, Tammy Hoffmann, [...], Paul Glasziou [view all]

Published: July 24, 2017 • <https://doi.org/10.1371/journal.pone.0178666>

Article	Authors	Metrics	Comments	Media Coverage
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Abstract

Introduction

Methods

Results

Discussion

The Fair Comparisons Network

Supporting information

References

Reader Comments (0)

Abstract

Background

People are frequently confronted with untrustworthy claims about the effects of treatments. Uncritical acceptance of these claims can lead to poor, and sometimes dangerous, treatment decisions, and wasted time and money. Resources to help people learn to think critically about treatment claims are scarce, and they are widely scattered. Furthermore, very few learning-resources have been assessed to see if they improve knowledge and behavior.

Objectives

Our objectives were to develop the Critical thinking and Appraisal Resource Library (CARL). This library was to be in the form of a database containing learning resources for those who are responsible for encouraging critical thinking about treatment claims, and was to be made available online. We wished to include resources for groups we identified as ‘intermediaries’ of

Key Concepts for Informed Health Choices: a framework for helping people learn how to assess treatment claims and make informed choices.

Chalmers I^{1,2}, Oxman AD¹, Austvoll-Dahlgren A¹, Ryan-Vig S³, Pannell S⁴, Sewankambo N^{1,5}, Semakula D^{1,5}, Nsangi A^{1,5}, Albarqouni L⁶, Glasziou P⁶, Mahtani K⁴, Nunan D⁴, Heneghan C⁴, Badenoch D².

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- 4 Centre for Evidence Based Medicine, University of Oxford, Oxford, UK.
- 5 Makerere University College of Medicine, Makerere University, Kampala, Uganda.
- 6 Centre for Research in Evidence-Based Practice, Bond University, Robina, Queensland, Australia.

Abstract

Many claims about the effects of treatments, though well intentioned, are wrong. Indeed, they are sometimes deliberately misleading to serve interests other than the well-being of patients and the public. People need to know how to spot unreliable treatment claims so that they can protect themselves and others from harm. The ability to assess the trustworthiness of treatment claims is often lacking. Acquiring this ability depends on being familiar with, and correctly applying, some key concepts, for example, that 'association is not the same as causation.' The Informed Health Choices (IHC) Project has identified 36 such concepts and shown that people can be taught to use them in decision making. A randomised trial in Uganda, for example, showed that primary school children with poor reading skills could be taught to apply 12 of the IHC Key Concepts. The list of IHC Key Concepts has proven to be effective in providing a framework for developing and evaluating IHC resources to help children to think critically about treatment claims. The list also provides a framework for retrieving, coding and organising other teaching and learning materials for learners of any age. It should help teachers, researchers,

Using TeachingEBHC.org to help in developing a postgraduate subject in Evidence-Based Practice

Loai Albarqouni

MD, MSc, PhD

 @LoaiAlbarqouni

Institute for Evidence-Based Healthcare

Faculty of Health Sciences and Medicine

Bond University



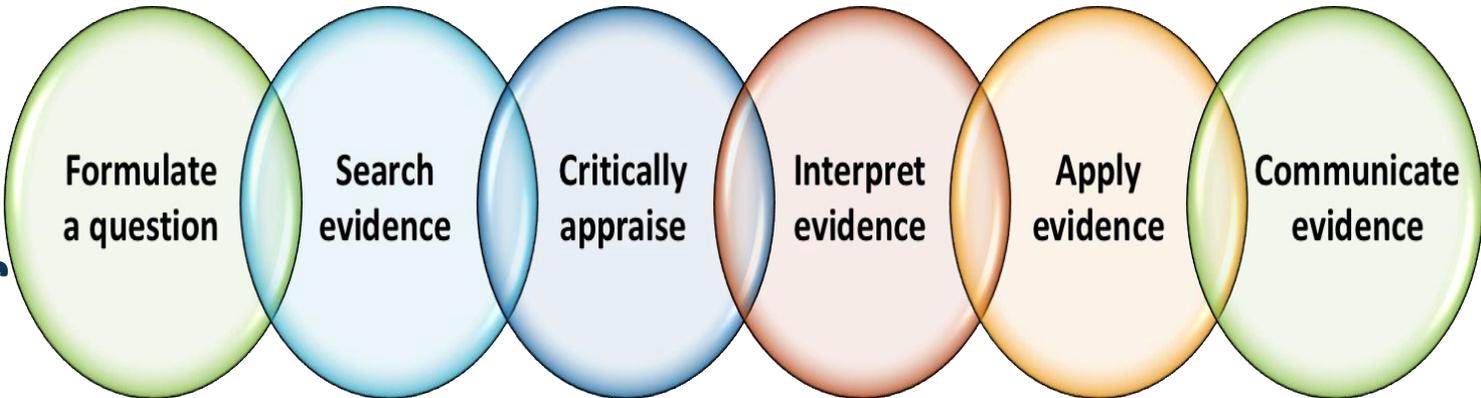
Outline

Summary of the course

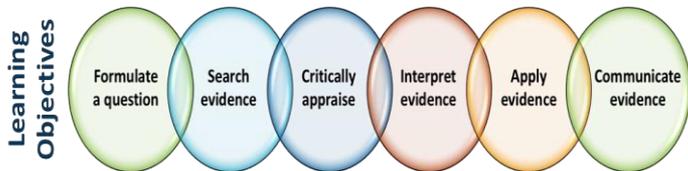
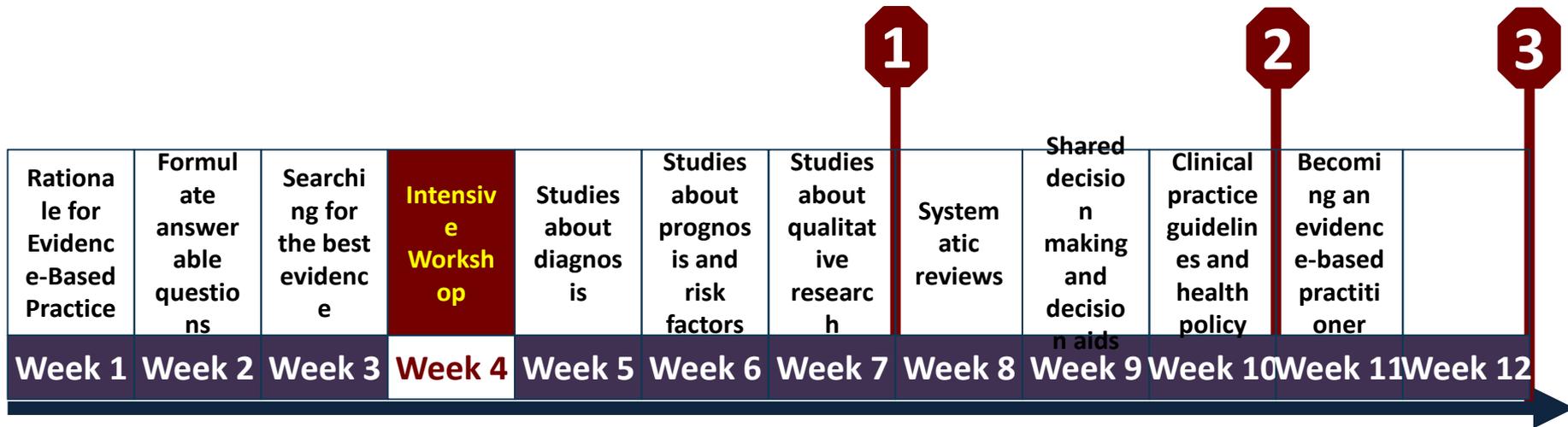
Contribution to teachingEBHC.org

Evidence Based Practice and Policy

Learning Objectives



Evidence Based Practice and Policy

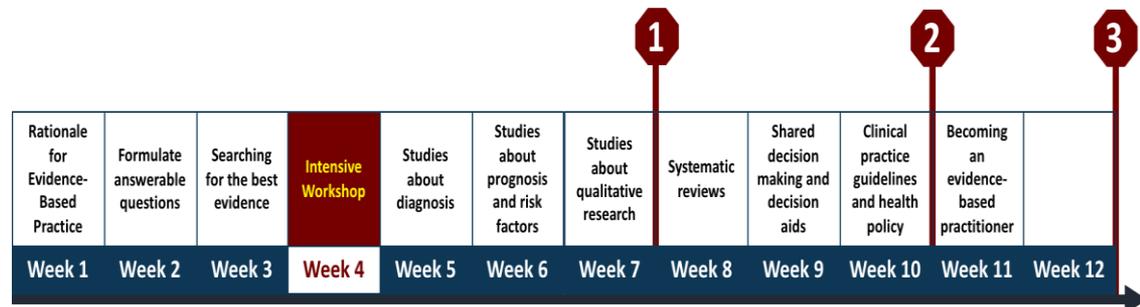
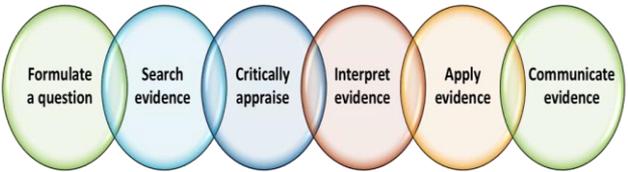


Evidence Based Practice and Policy

- Rationale for EBP**
Why study Evidence-Based Practice (EBP)
- Formulating an answerable question**
How do I create a question that will help me find relevant evidence?
- Searching for the best evidence**
How do I find the evidence?
- Diagnosis**
What is my patient's problem?
- Prognosis and risk factor**
What caused my patient's problem? What is my patient's outlook?
- Qualitative research**
What is my patient's experience of their illness?
- Systematic reviews**
What about when there's more than one piece of evidence?
- Shared decision making**
How do I apply evidence in clinical practice?
- Clinical practice guidelines and health policy**
What about the experts' role in evidence?
- Becoming an evidence-based practitioner**
How do I move forward from here?

Introduction Video	Interactive Reading
Resources	Discussion Board
Tutorials	Online Consultations

Learning Objectives



Anecdotal evidence

We cannot rely on anecdotes

We are convinced most easily by anecdotes and personal experiences. However, personal stories and anecdotes can be fatally misleading.



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Every single individual is unique and there is too much variability between individuals. Therefore, when one individual gets better with a treatment or an intervention, this is not evidence that this intervention or treatment actually works. The response of someone else may be **markedly different**.

Read this [article](#) in The Guardian, in which Ben Goldacre gives examples of how conclusions based on anecdotes and biased research can be misleading.

"anecdotes are a great communication tool, **but only when they accurately illustrate the data**" - that is only when there is **evidence** supporting it.

Remember the latest anecdote that you have heard of and search if there is evidence supporting it or not?

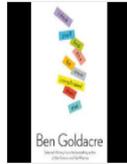
Learning Resources Database

Search:

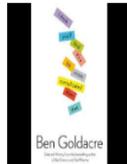
Filter by: EBM Stage Key Concept

Target audience Language Format Difficulty

Sort by: Relevancy Display as: List

 **Anecdotes are great - if they convey data accurately**

★ ★ ★ ★ ★ Rated 0.0 from 0 votes <5 mins | Intermediate

 **Studies of studies show that we get things wrong**

★ ★ ★ ★ ★ Rated 0.0 from 0 votes <5 mins | Intermediate

 **Recognizing researcher/sponsor biases and fraud**

★ ★ ★ ★ ★ Rated 0.0 from 0 votes <5 mins | Intermediate

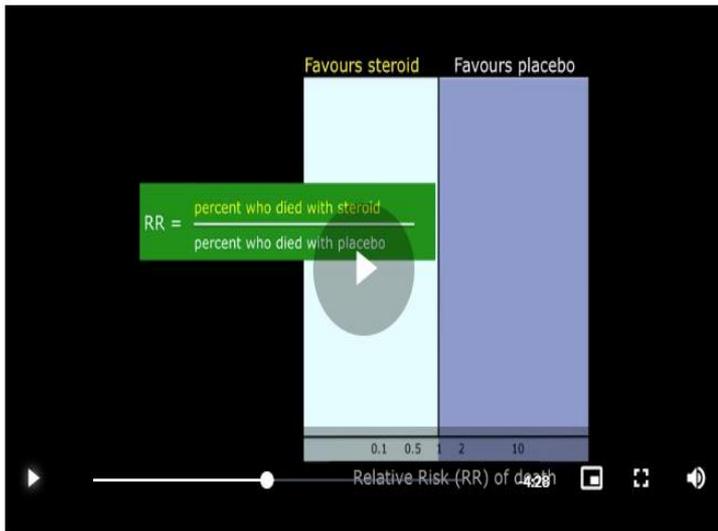
 **Rumor has it**

★ ★ ★ ★ ★ Rated 5.0 from 1 votes <5 mins | Advanced

Forest Plot Interpretation

FIND	APPRAISE AND INCLUDE	TOTAL DATA OVERVIEW AND DATA ...	INTERPRETING A FOREST PLOT OF...
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From [Testing Treatments International](#)



Learning Resources Database

Search

Filter by: 3 - Appraising Evidence Key Concept

Target audience English Videos Difficulty

Sort by: Relevancy Display as: List Clear

2 results

NCCMT - Understanding Research Evidence
 National Collaborating Centre for Methods and Tools
 Centre de collaboration nationale des méthodes et outils
 5 stars Rated 0.0 from 0 votes >15 mins | Intermediate

What does the Cochrane logo tell us?
 5 stars Rated 5.0 from 1 votes 5-15 mins | Intermediate

Association is not causation

Association is not the same as causation. Let's say that again: association is not the same as causation!

Format
Cartoons, Texts, Websites

Language/s
English

Target Aud
Further ed
directed lea

EBM Stage
0 - Why EBM?

Duration
5-15 mins

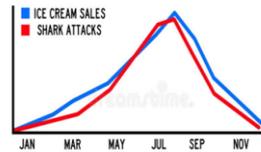
Difficulty
Intermedia

Watch the video



Ice cream consumption is linked to shark attacks

Recent study shows that whenever ice cream sales rise, so do shark attacks.



Spurious correlations



Now a ridiculous book!

- Spurious charts
- Fascinating factoids
- Commentary in the footnotes

Amazon | Barnes & Noble | Indie Bound



US spending on science, space, and technology correlates with Suicides by hanging, strangulation and suffocation

Correlation: 99.79% (r=0.99789126)



Data sources: U.S. Office of Management and Budget and Centers for Disease Control & Prevention

ourgen.com

Randomisation & Allocation Concealment

Teaching Tips: randomisation for trials

Format
Lessons

Language/s
English

Target Audience
Schools, Further education

EBM Stage
3 - Appraising evidence

Duration
5-15 mins

Difficulty
Introductory

[View the Lesson](#)



Rated 5.0 from 3 votes

Randomisation & allocation concealment		Group Exercise
		
Men		
Women		<p>Anyone correctly guessed the content of the envelope? Anyone swapped the envelope?</p>
Total		

Regression to the mean

Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

Format Lessons, Texts	Language/s English	Target Audience Schools, Further education
EBM Stage 0 - Why EBM?	Duration 5-15 mins	Difficulty Introductory

View the Lesson



Rated 5.0 from 2 votes

A poem about regression to the mean

Format Videos	Language/s English	Target Audience Schools, Further education
EBM Stage 3 - Appraising evidence	Duration <5 mins	Difficulty Intermediate

View the Video



Rated 0.0 from 0 votes

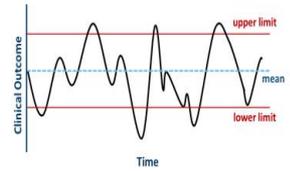
Regression to the mean Group Exercise

Your PBL Group is an orthopaedic surgical unit
 You offer *arthroscopic lavage* to patients whose symptoms of osteoarthritis are *intolerable*
 Symptoms of osteoarthritis defined as “intolerable” if *dice scores ≥ 10* (scale 2 – 12)

- 1- Throw the dice and calculate your patient pain score (i.e. dice score)
- 2- Should you do an arthroscopy?
- 3- If yes, check symptoms in 12 months.

Regression to the mean Group Exercise

PBL Group	Score at initial assessment (2-12)	Arthroscopy? Y or N	Score at 12 months (2-12)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			



Uncertainty (confidence intervals)

Understanding Confidence Intervals

Format

Videos

Language/s

English

Target Audience

Schools, Further education

EBM Stage

3 - Appraising evidence

Duration

<5 mins

Difficulty

Introductory

[View the Video](#)

Rated 0.0 from 0 votes

Key Concepts addressed

2-3g Statistical significance is not the same as importance

2-3c Average measures of effects can be misleading

The **difference**
for the population
equals... ~~X~~ ●

The **difference**
for the population
lies between... ✓ |—●—|

1:19 / 4:02

Summary

Learning Resources Database



Find Resources... Search

Filter by: EBM Stage Key Concept

Target audience Language Format Difficulty

Sort by: Relevancy Display as: List Clear

Suggesting/Uploading Resources

Contemporary EBP workshop for clinicians

This workshop focuses on integrating Shared Decision Making (SDM) training and Evidence-Based Practice (EBP) training through providing video demonstration (to model the skills) followed by teaching how to interpret and communicate research evidence and decision aids.



Rated 0.0 from 0 votes

This Bundle is by **Loai Albarqouni**, last edited on **2 November 2019**.

Public Bundle

Target Audience

Further education, Researchers, Self-directed learning

EBM Stage

1 - Asking focused questions
3 - Appraising evidence
4 - Decision making

This workshop focuses on integrating Shared Decision Making (SDM) training and Evidence-Based Practice (EBP) training through providing video demonstration (to model the skills) followed by teaching how to interpret and communicate research evidence and decision aids.



A contemporary EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making

Evaluated ✓

This is a booklet of a half-day EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making.



Rated 0.0 from 0 votes

Remove



Interpretation of Research Evidence

Evaluated ✓

These are two videos explaining key elements on how to interpret research evidence. These materials have been presented in a half-day EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making.



Rated 0.0 from 0 votes

Remove







In groups (3-4)

Discuss

- How you teach EBM/EBHC concepts
- Useful resources to aid your teaching
- Are these resource/s currently on the TEBHC site?
- If yes,
 - has it been rated?
 - does it/do they have a lessons posted with them?
- If no:
 - Submit a resource!



Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

Format

Lessons, Texts

Language/s

English

Target Audience

Schools, Further education

EBM Stage

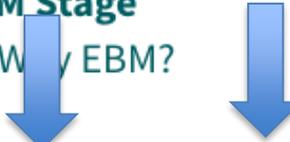
0 - Why EBM?

Duration

5-15 mins

Difficulty

Introductory


[View the Lesson](#)




Rated 5.0 from 2 votes

Understanding *Regression to the mean* in preparation for teaching EBM

Background

I am responsible for teaching medical students about Evidence Based Medicine. One of the challenges is to explain, early in the program, the several reasons that evidence for treatments (interventions) needs controlled studies. I deal with the need for randomisation in a separate occasion.

The problem

When I put up a slide showing the placebo arm of a trial (holding back data for the intervention arm, for the moment), which shows improvement with time, and ask the students to explain this, the notion of *placebo effect*, is quickly suggested: it seems to be well inured into our culture, and many students – even very early on – understand it well. However *regression-to-the-mean*¹ seems to be very non-intuitive in comparison.² It has been defined as the tendency for extreme measurements to be closer to the mean when repeated.³ It may be a greater effect than the placebo effect.³

The educational solution

In my session, which students are studying osteoarthritis (OA) as a weekly case in a problem-based learning (PBL) program, I discuss arthroscopy as a treatment option, widely practiced in our area. The example of a regression to the mean effect is from a randomised controlled trial of arthroscopic lavage and debridement for knee OA. To illustrate this effect, I hand out to the students a pair of dice to each PBL group (~8-9 students in each, ~12 groups), together with a laminated picture of an arthroscope. On a signal they throw the dice, and we record the score for each Group on the whiteboard. We had already set the pain level as ≥ 10 (dice score range 2-12), describing this pain as 'unbearable – please do something, doctor'. Those scoring ≥ 10 are invited to 'arthroscope their dice', using the laminated sheet. This can be hilarious (I demonstrate how to do it with a crunt. and this is usually





Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

Format
Lessons, Texts

Language/s
English

Target Audience
Schools, Further
education

EBM Stage
0 - Why EBM?

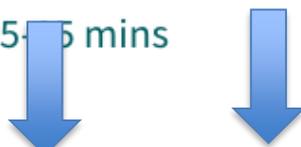
Duration
5-5 mins

Difficulty
Introductory

[View the Lesson](#)



Rated 5.0 from 2 votes



Suggest a learning resource



If you know of a good teaching resource for EBHC, please use this form to tell us about it. If you are unsure what we are looking for, please consult the Help section. If it meets our [inclusion criteria](#), we'll add it to the Database.

About you

Your Name*



Your Email*

In groups (3-4)

Discuss

- How you teach EBM/EBHC concepts
- Useful resources to aid your teaching
- Are these resource/s currently on the TEBHC site?
- If yes:
 - has it been rated?
 - does it/do they have a lessons posted with them?
- If no:
 - Suggest a resource!



Feedback

- on the site design / layout
- on coverage
 - e.g. Pedagogical approaches? (learner-centred vs didactic)
- on the resources

A final question for you

- How can we encourage more people to use it?
 - How can we encourage more rating / commenting?
- Please join the EBHC-Teachers Jiscmail list
 - <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=EBHC-TEACHERS>

Sample user archetype

Busy Lizzie

Lizzie is a senior mental health nurse who wants to use a 1.5 hour CPD session to develop her team's critical appraisal skills.

She wants to find helpful slide sets to prepare her presentation and good papers to work from.



Sample user archetype

Desperate Dan

Dan is a clinical lecturer with responsibility for undergraduate teaching in epidemiology for medical students.

The first lecture is tomorrow and he wants to find some really snappy visuals he can use to inspire his students.

