Centre for Evidence Based Health Care





Stellenbosch University Rural Medical Education Partnership Initiative



Enhancing evidence-based health care (EBHC) knowledge and skills of medical student interns at Stellenbosch University's Rural **Clinical School in Worcester** Rohwer A<sup>1</sup>, Schoonees A<sup>1</sup>, Engel M<sup>1</sup>, Young T<sup>1</sup> <sup>1</sup>Centre for Evidence-based Health Care, Stellenbosch University

# Background

The Faculty of Medicine and Health Sciences (FMHS) at Stellenbosch University (SU) gives medical students in their final year of undergraduate training the opportunity to do their student internship at the Rural Clinical School in Worcester, about 100km from the Tygerberg Academic hospital in Cape Town, South Africa. As part of the SU Medical Education Partnership Initiative (SURMEPI) Rural project (http://surmepi.sun.ac.za), which aims to increase the number and capacity of medical doctors working in rural areas and to increase regionally relevant research, our team at the Centre for Evidence-based Health Care (www.sun.ac.za/cebhc) developed a tutorial series on evidence-based health care (EBHC) and delivered them to these student interns over the course of a year.

Figure 2: Selected quotes from the student interns

"Thank you very much for the teaching this year, it really made a huge difference and I am now confident that I will be able to answer any questions I might have as well as critically appraise articles."

> "It would be even more useful to have more frequent lessons."

Figure 3: Selected results of pre- and post-tutorial questionnaires completed by the 21 student interns

## Methods

Five two-hour EBHC tutorials were presented to 21 student interns. The aim was to familiarise students with the basic principles of EBHC and the application thereof. Topics covered: Introduction to EBHC and formulating questions; searching databases for relevant studies; reading a randomised controlled trial (RCT); reading a systematic review; and reading a clinical guideline. Each two-hour tutorial consisted of didactic input followed by hands-on class exercises and discussions.

We set up an e-mail list and created an online learning site on Edmodo (www.edmodo.com). We made key EBHC readings, PowerPoint slides and screencasts available on this site. It also provided a platform for discussions and enabled sharing of current events and useful links to other websites (Figure 1).

edmodo	Search	Calendar Grades <del>-</del> Library	Home Profile Account <del>-</del>
With the second sec	Evide	nce-informed Health Care Filter posts by 🛩	Claim your Profile URL X http://edmodo.com/
	Post:	<ul> <li>Note          Alert Assignment Quiz Poll     </li> <li>type your note here</li> <li>Me to Evidence-informed Health Care         The Trip database has a new interface that enables you to enter your PICO components:     </li> </ul>	Evidence-informed Health Care Group Code: 056191 Request To Join URL Group Settings Subscribe Group To Feed Public Page
		Trip Database tripdatabase.com	Members (15) Manage
		Me to Evidence-informed Health Care "Like" our Facebook page to be kept informed of all our EBHC activities Centre for Evidence-based Health Care   Facebook facebook.com Oct 19, 2012   Reply   Share   Tag •	Folders Accessing Applying Appraising Asking Useful articles
		Me to Evidence-informed Health Care This is the link to the AGREE II tool, used to critically appraise guidelines. You can download the PDF version of the tool           Image: Control of the control of	Send Invitations Invite other teachers to Edmodo

Figure 1: The online learning site on Edmodo

## Results

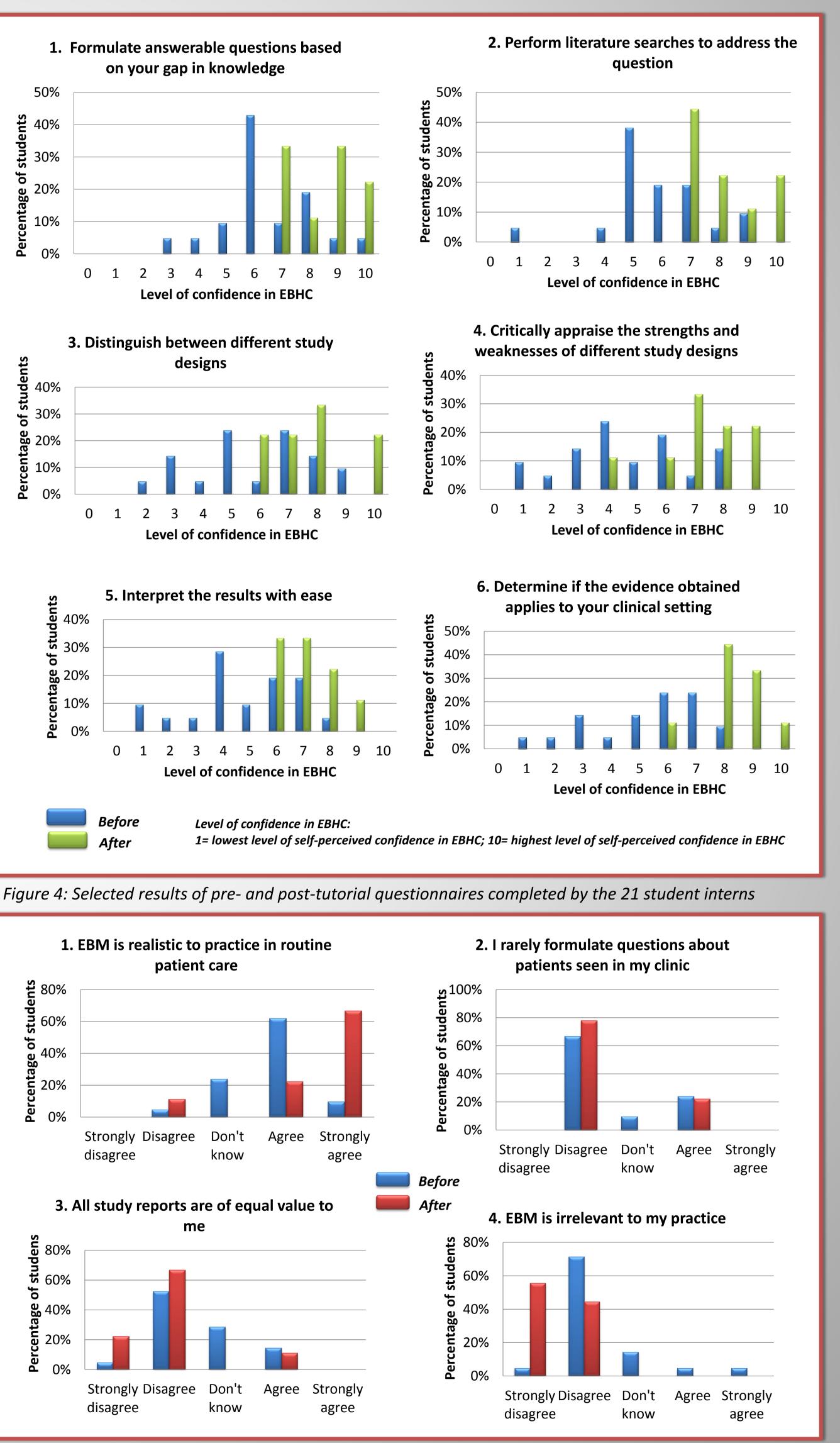
The series of tutorials was very well received (Figure 2). The online learning site and email list worked well to maintain contact with students between tutorials. Results of the pre- and post-course (8 months later) questionnaires showed an overall increase in students' self-perceived confidence in their ability to apply the various steps of the EBHC process (asking questions, accessing the literature, appraising the literature, applying the results and auditing the process) (Figure 3). Although students mostly had a positive attitude towards EBHC at the beginning of the year already, results indicated that students' attitudes shifted to an even more positive attitude after the tutorial sessions (Figure 4).

Before the first, and after the last tutorial, students were asked to rate their confidence in practicing EBHC by completing a questionnaire based on the EPIC scale<sup>1</sup>; and to assess their attitude towards EBHC using a second set of questions based on a Likertscale<sup>2</sup>.

#### References

<sup>1</sup>EPIC scale (Salbach 2012) that measures self-perceived EBHC competence on a scale from 0% (no confidence) to 100% (completely confident) <sup>2</sup>Likert scale ratings of EBHC statements adapted from Baum 2003, from strongly disagree to strongly agree

<sup>3</sup>Frenk et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. The Lancet 2010, 376:1923-58

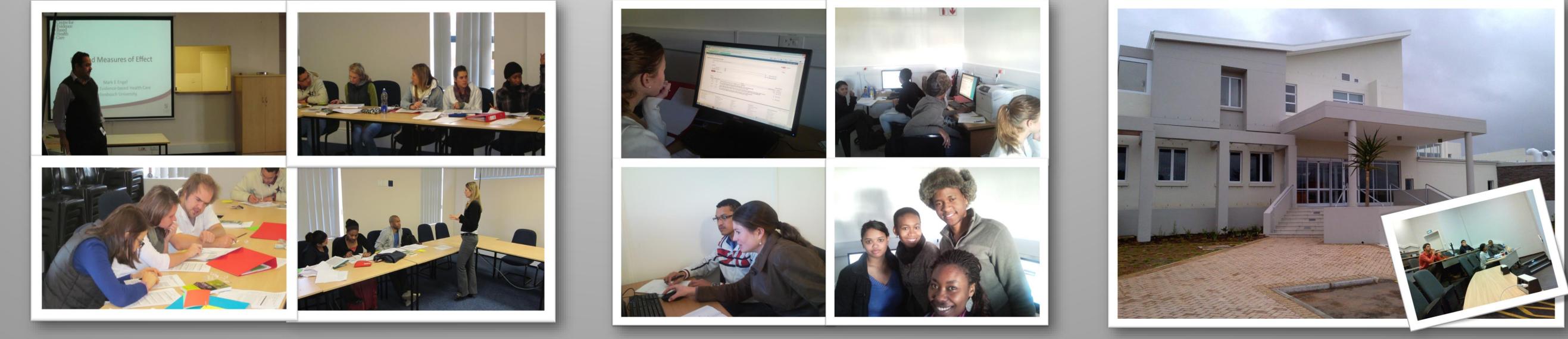


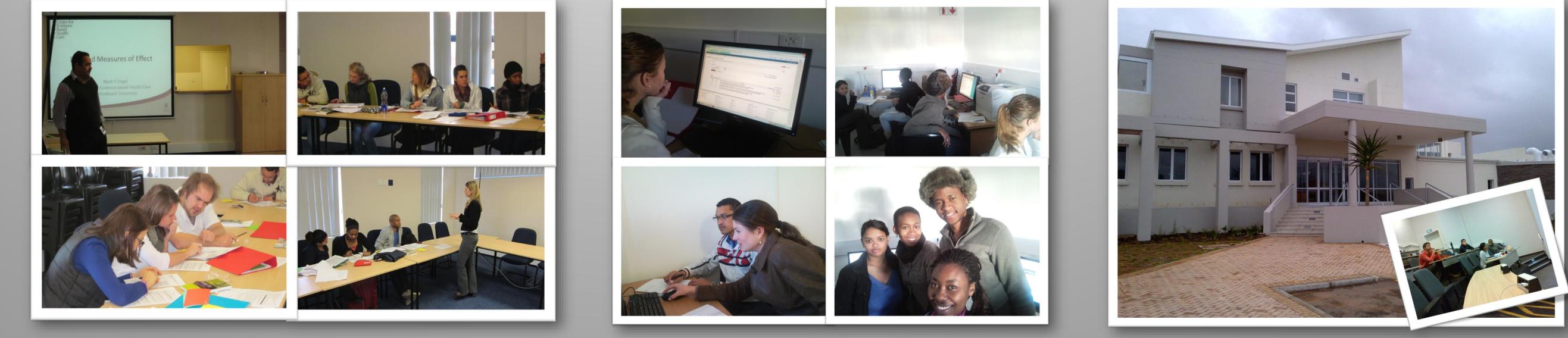
A challenge raised by students frequently was the issue of access to information when working in the clinical field. Once students graduate, they no longer have access to SU's Library with all the full text articles of studies; as well as electronic databases and journals. This makes it very difficult for them to actually practice EBHC, because without access to best evidence they cannot consider it in their decision-making process and thus cannot apply what they have learnt. There is a need to address this barrier if we want our graduates to practice EBHC – especially during their internship and community service years which lay the foundation of their clinical practice.

## Conclusion

Being competent in practicing EBHC not only equips new graduates with the necessary tools to deal with the information overload and encourage them to adopt a philosophy of life-long learning - it enables them to make more informed decisions about health care. This is highlighted in the recent Lancet report on the health professional for the 21<sup>st</sup> century, which proposes that healthcare professional training should become transformative. One of the fundamental shifts of transformative learning aligns almost perfectly with the steps of EBHC, namely the shift from memorization of facts to "critical reasoning that can guide the capacity to search, analyse, assess and synthesise information for decision-making"<sup>3</sup>.







The authors gratefully acknowledge funding received from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), through HRSA, and via the Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI).

Centre for Evidence-based Health Care, Faculty of Medicine and Health Sciences, Stellenbosch University, South Africa www.sun.ac.za/cebhc; Facebook.com/cebhc email: cebhc@sun.ac.za Tel: +27-21-9389886