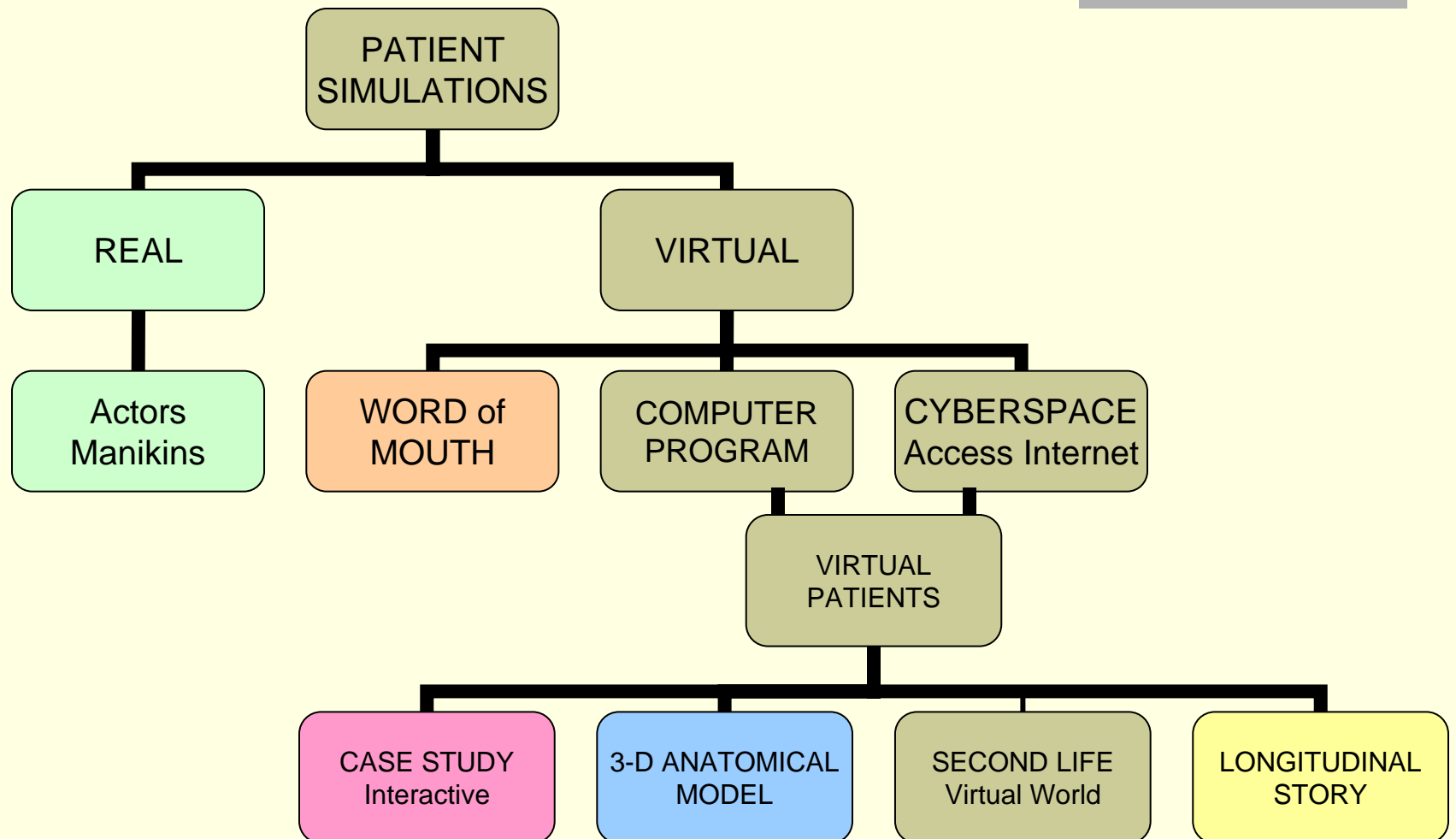

Sharing Virtual Patients with other Medical Schools

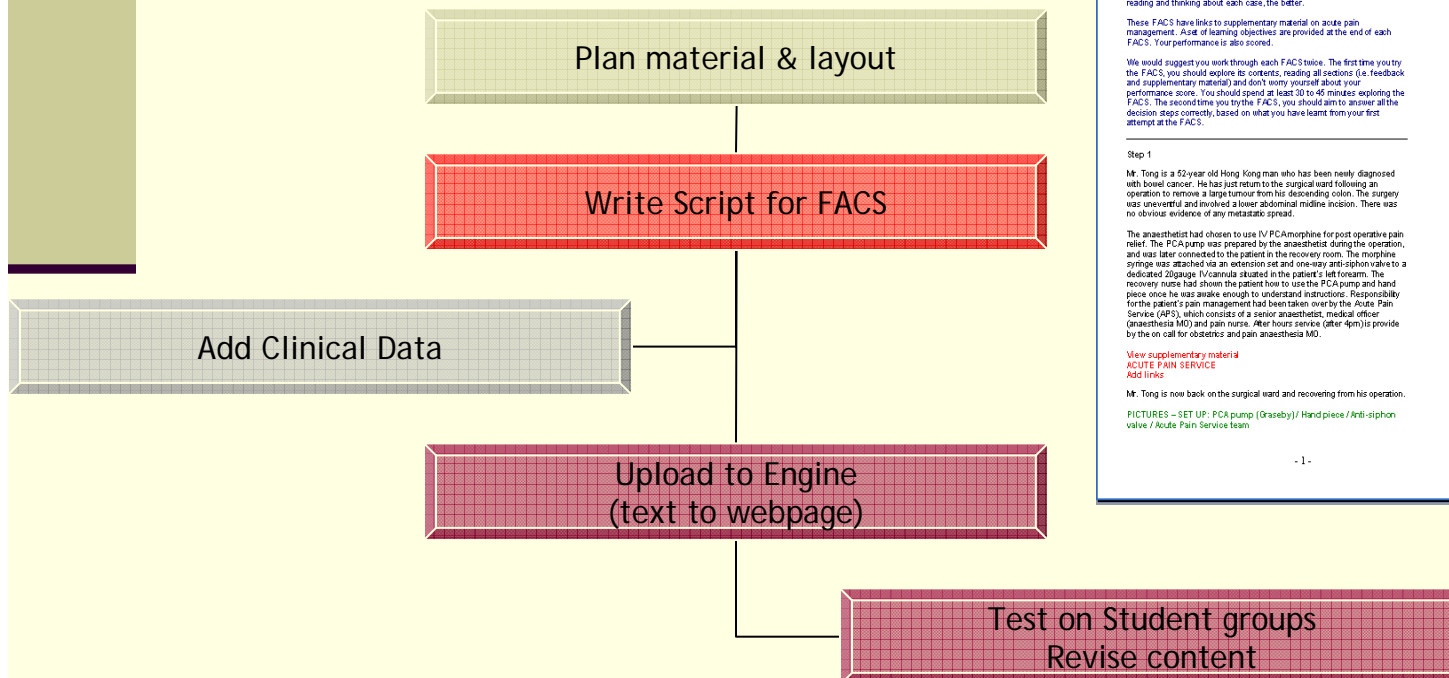
Professor Lester AH Critchley
Dept. Anaesthesia & Intensive Care
Faculty of Medicine
The Chinese University of Hong Kong

What is a Virtual Patient?



Good VPs are difficult to create.

- Time consuming
- Experts in content
- Skill / Experience to write
- Expensive



<p>FACS-Pain Case B Jan 2009</p> <p>IV PCA-Acute Pain Service on Ward</p> <p>FACS-Pain Case B January 2009 IV PCA - Acute pain service on Ward</p> <p><u>Student Instructions</u></p> <p>This Acute Pain Management FACS is one of three that will introduce you to the main issues involved in providing acute pain management to a patient undergoing major surgery. It follows the standard FACS format of a series of decision steps with feedback based around a clinical case.</p> <p>Please feel free to explore the FACS, rather than aiming for the highest possible score or completing the FACS as fast as possible. It is important that you understand why some of your answers are incorrect.</p> <p>Our objective in writing these three FACS scenarios is to improve your understanding of post-operative pain management, so the more time spent reading and thinking about each case, the better.</p> <p>These FACS have links to supplementary material on acute pain management. A list of learning objectives are provided at the end of each FACS. Your performance is also scored.</p> <p>We would suggest you work through each FACS twice. The first time you try the FACS, you should explore its contents, reading all sections (ie feedback and supplementary material) and don't worry yourself about your performance score. You should spend at least 30 to 40 minutes exploring the FACS. The second time you try the FACS, you should aim to answer all the decision steps correctly, based on what you have learnt from your first attempt at the FACS.</p> <p>Step 1</p> <p>Mr. Tong is a 52-year-old Hong Kong man who has been newly diagnosed with bowel cancer. He has just returned to the surgical ward following an operation to remove a large tumour from his descending colon. The surgery was uneventful and involved a lower abdominal midline incision. There was no obvious evidence of any metastatic spread.</p> <p>The anaesthetist had chosen to use IV PCA morphine for post-operative pain relief. The PCA pump was prepared by the anaesthetist during the operation, and was later connected to the patient in the recovery room. The morphine syringe was attached via an extension set and one-way anti-siphon valve to a dedicated 20 gauge IV cannula situated in the patient's left forearm. The recovery nurse had shown the patient how to use the PCA pump and hand piece once he was awake enough to understand instructions. Responsibility for the patient's pain management had been taken over by the Acute Pain Service (APS), which consists of a senior anaesthetist, medical officer (anaesthesia MO) and pain nurse. After hours service (after 6pm) is provided by the on-call for obstetrics and pain anaesthesia MO.</p> <p>View supplementary material ACUTE PAIN SERVICE Add links</p> <p>Mr. Tong is now back on the surgical ward and recovering from his operation.</p> <p>PICTURES - SET UP: PCA pump (Graseby) / Hand piece / Anti-siphon valve / Acute Pain Service team</p> <p style="text-align: center;">- 1 -</p>	<p>FACS-Pain Case B Jan 2009</p> <p>IV PCA-Acute Pain Service on Ward</p> <p>Question When should the APS pain nurse or MO first visit Mr. Tong (select one)?</p> <p>Choices</p> <table border="0"> <tr> <td>Before the operation</td> <td>(10)</td> </tr> <tr> <td>Whilst still in recovery</td> <td>(10)</td> </tr> <tr> <td>When he arrives on ward</td> <td>(10)</td> </tr> <tr> <td>2-3h after his arrival on ward</td> <td>(20)</td> </tr> <tr> <td>During the evening after surgery</td> <td>(5)</td> </tr> <tr> <td>Next morning after surgery</td> <td>(0)</td> </tr> </table> <p>[Only score first attempt]</p> <p>Feedback</p> <p>Before the operation Ideally all patients receiving IV PCA, or any other method of post-operative pain relief, should have been seen by the pain service before surgery to educate them on its use. However, the hospital's demand for pain services is now so great that such visits are seldom possible. There is simply not enough time. Very often the lead anaesthetist will tell the patient about the use of IV PCA as part of the pre-operative visit, especially if he has pain service training and can speak Cantonese.</p> <p>Whilst still in the recovery room The initial education of the patient on how to use the PCA pump and hand piece is usually performed by the recovery nurse, once the patient has recovered sufficiently from the anaesthetic and operation to understand her instructions. However, assessment of the quality of pain relief can only be performed after the IV PCA has been used for several hours.</p> <p>On arrival in the general ward When the patient has just arrived back on the main ward is a bad time to visit the patient, as he will have had insufficient time to use the IV PCA pump and hand piece. Furthermore, the ward nurses may still be busy with the patient as he has only just arrived on the ward.</p> <p>However, the pain nurse does at some point need to visit Mr. Tong at some point to assess the quality of pain relief, whether the pump is set up properly, and whether IV PCA pump and hand piece are functioning properly.</p> <p>During the evening after surgery and the next day By the evening and next day the patient should have been using the IV PCA for some time. If there is any problem with the pump set up or the patient's use of the hand piece, he may be receiving insufficient morphine and inadequate pain relief, or alternatively excessive morphine and developed an overdose. In either case the acute pain service should have been involved earlier.</p> <p>LEARNING OBJECTIVES: Student understands that IV PCA needs continuous supervision and that the acute pain service supervises pain management on the wards.</p> <p>Step 2a</p> <p>Mr. Tong's IV PCA was prepared in theatre by the anaesthetist. It was connected up and started only once Mr. Tong had recovered sufficiently from his anaesthetic to understand how to use the hand piece.</p> <p style="text-align: center;">- 2 -</p>	Before the operation	(10)	Whilst still in recovery	(10)	When he arrives on ward	(10)	2-3h after his arrival on ward	(20)	During the evening after surgery	(5)	Next morning after surgery	(0)
Before the operation	(10)												
Whilst still in recovery	(10)												
When he arrives on ward	(10)												
2-3h after his arrival on ward	(20)												
During the evening after surgery	(5)												
Next morning after surgery	(0)												

One solution is SHARING cases: *But with whom can we share?*

- Europe – 4 well developed systems

- CASUS Player
- CAMPUS
- WebSP
- Open Labyrinth



- North America – 3 or 4 systems

- McGill University, VP
- Maryland VP
- Pittsburgh University, vpSim
- NetWoRM (CASUS / multicenter / occupational M)

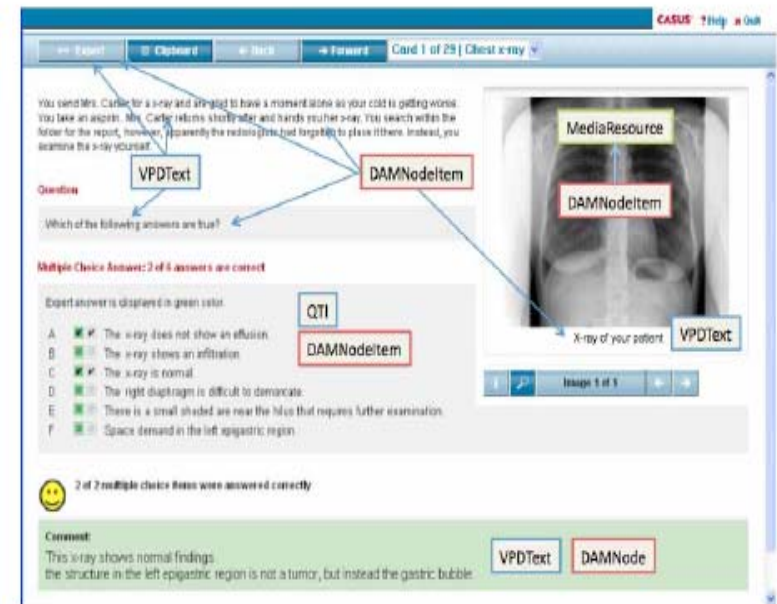
- SE Asia – Hong Kong (FACS & VP) & Taiwan VP

CACUS Player

Munich, Germany

- Since 1993
- Linear design
 - Series of web-pages
 - 9 different question types
 - Scoring system
 - 6 different languages
- 1000 cases
 - Including 125 Law Schools cases

CASUS[®]



The screenshot displays the CASUS Player interface for a chest X-ray case. The window title is "CASUS Help Out" and the current card is "Card 1 of 29 | Chest x-ray". The interface includes a navigation bar with buttons for "Back", "Forward", and "Close". The main content area contains a question text: "You send Mrs. Carter for a x-ray and struggle to have a moment alone as your coat is getting worse. You take an aspirin. Mrs. Carter returns shortly and hands you her x-ray. You search within the folder for the report, however, it appears the radiologist had forgotten to place it there. Instead, you examine the x-ray yourself." Below the text is a "Question" section with the prompt: "Which of the following answers are true?". The "Multiple Choice Answer: 2 of 6 answers are correct" section lists six options (A-F) with checkboxes. The "Expert answer is displayed in green color" section shows the correct answers: A, B, C, and E. The "X-ray of your patient" image is annotated with "MediaResource" and "DAMNodeItem" labels. The "Comment" section at the bottom states: "This x-ray shows normal findings. The structure in the left epigastric region is not a tumor, but instead the gastric bubble." and includes "VPDText" and "DAMNode" labels.



KAROLINSKA
INSTITUTET

Web-SP

Web-based Simulation of Patients

Dept. of Learning, Informatics, Management & Ethics (LIME)



Home / Demo Center

Web-SP - Version 1.0 - Microsoft Internet Explorer

waiting room my profile tutorial help about logout

introduction **medical history** physical examination lab tests diagnosis therapy feedback

Logged in as: Nabil Zary


Patient: Maria P ?

present illness
past history
family/social history
review of systems
medications
allergy
misc

childhood illnesses
adult illnesses

- Have you ever been seriously ill?
- Do you have asthma?
- Do you have diabetes?
- Have you ever been diagnosed with hypertension?
- Have you ever had hepatitis?
- Have you ever been diagnosed with having HIV?
- Have you had tuberculosis?
- New text entry in adult illnesses**

surgery
hospitalizations
obstetric history
psychiatric history



I've had high blood pressure for 10 years now. But it's controlled by the medications I take.

questions asked

WebSp

Turn edit on

CAMPUS

Heidelberg, Germany

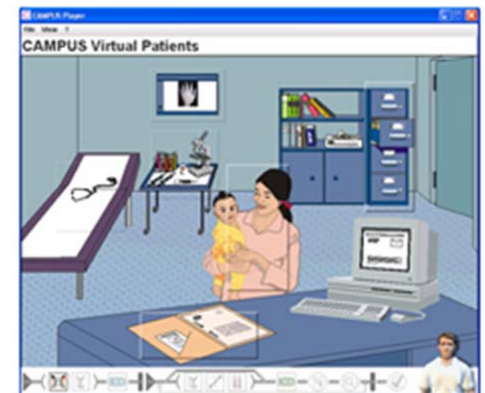
- Since 1997
- Clinical Case Design / Linear
 - Classic-Player & Card-Player
 - Case Diagnosis
- Non- Commercial / University funded
- Major users
 - Paediatrics

Virtual Patients

Virtual patients are an interactive, realistic, computer based simulation of patient care, with the goal of simulating real-life medical practice. Virtual patient cases can be used to begin the education into a medical speciality, as an indepth review, as continuing education, or as a testing modality.

CAMPUS system virtual patients are continually evaluated revised and improved by our centre. CAMPUS centre virtual patients are in use at Heidelberg University and many other German and international institutions.

Further information may be found under "[CAMPUS-Software](#)".__

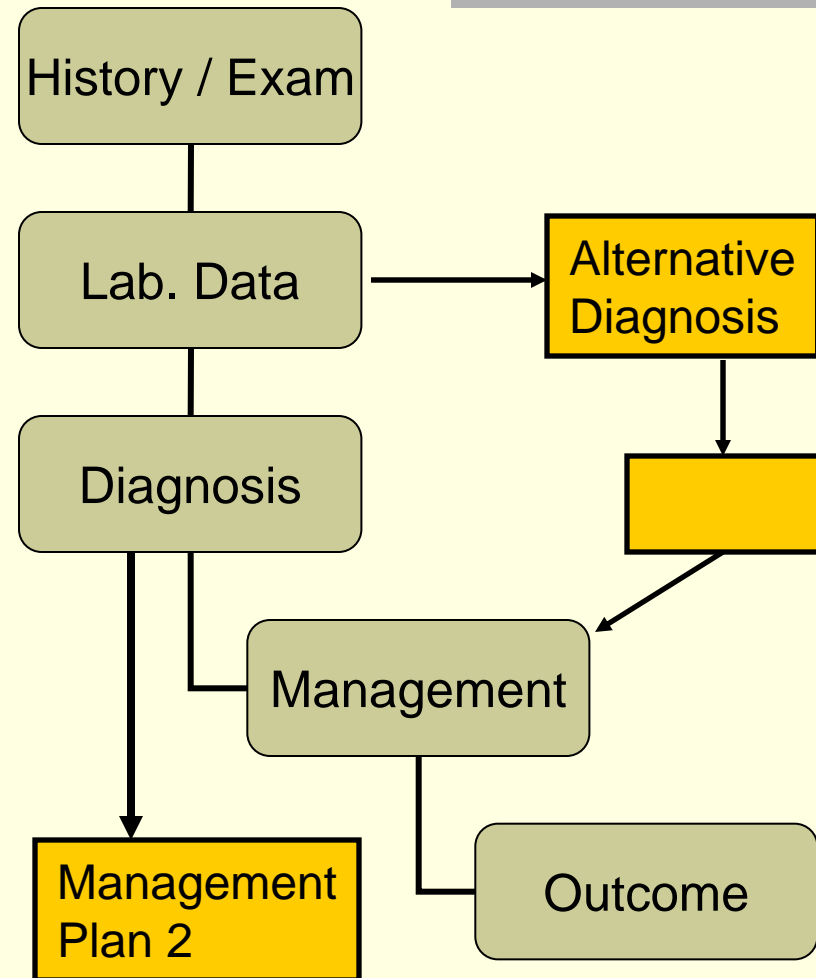


Screenshot CAMPUS-Software

Reasons for the implementation of virtual patients :

Play systems

- Design:
 - LINEAR (serial)
 - CACUS, CAMPUS
 - BRANCHING
 - Open Labyrinth
- Navigate the system
 - forward only
 - back & forth
 - loops / network
- Similarities to FACS



Patient Presentation



St. George's Medical School,
London, UK
Design for use in PBL tutorials
G4 Project
Branching VPs

Mrs Pat Hurst enters the consulting room of her General Practitioner's surgery. Below is a transcript of the initial conversation between her and her GP:

GP: How old are you Pat?

Pat: I am 65.

GP: What's the problem?

Pat: Terrible backache! Really, really bad.

GP: How long have you had this for?

Pat: I've had it for quite a while. I keep thinking that it's because I've done too much work. It's so persistent now, getting out of bed is a bit difficult.

GP: You've had it for a while. Can you put some kind of estimate on that? Months? Weeks?

Pat: I've had it for months and months. It's just one of those things.

GP: As much as a year?

Pat: Could be over a year.

GP: You say it's persistent?

Pat: Yes.

GP: Day and night?

Pat: Yes.

GP: Is it enough to keep you awake at night?

Pat: Yes, very often.

GP: Is it worse when you're walking or carrying shopping?

Pat: Yes, definitely, yes.

Case Information

Case: Pat Hurst Tutorial 1
(enriched) (501)
ID: 13478

[Restart Case](#)

Case Pathway

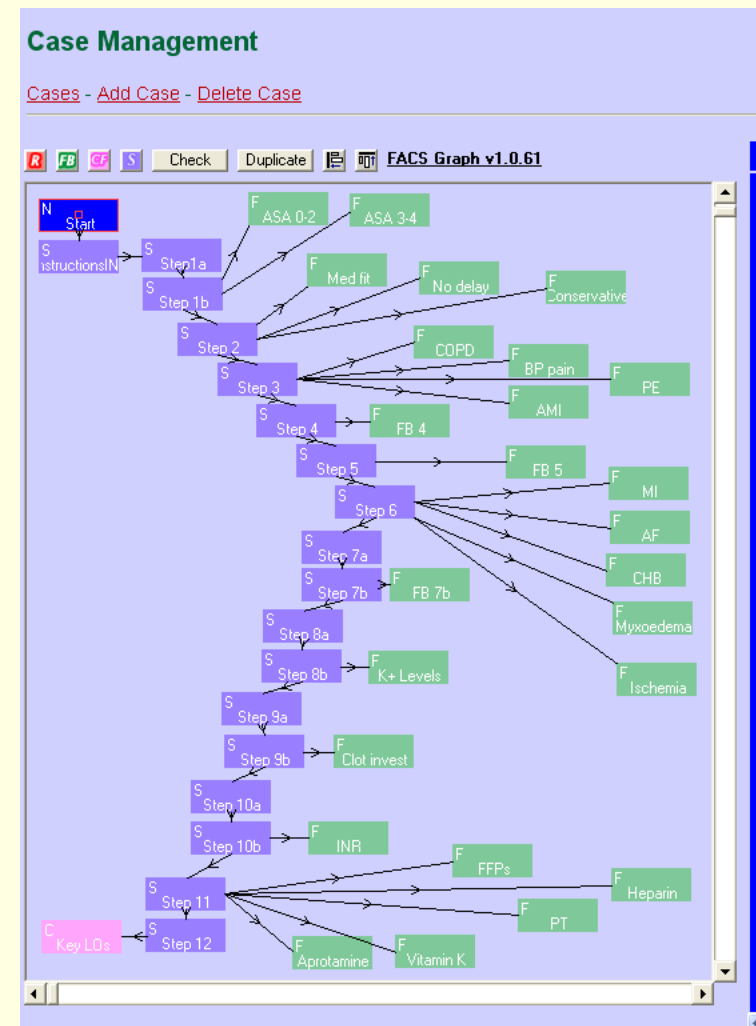
[Review your pathway](#)

Case Score

[Patient Presentation and History](#)

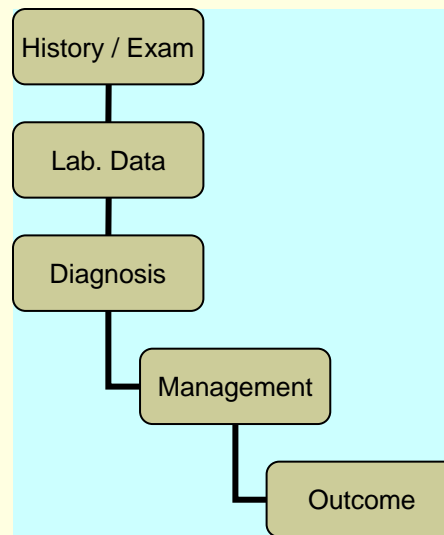
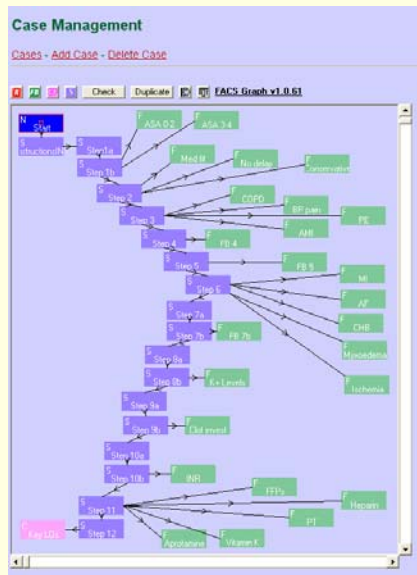
Can they be shared?

- YES,
 - *but problems:*
- Compatible software
 - i.e. player-systems:
 - Supports case design
- Data needs to be in transferable format:
- Other Issues:
 - Common Licenses
 - Depersonalized
 - Ownership



Developing Virtual Patients is like a cottage industry with many tribes and many designs

- *Quote by Rachel Ellaway*



- We need to develop standards:
 - VP Players
 - Authoring cases



Enabling collaboration for healthcare education

Home > Working Groups > Virtual Patient

- Home
- About Us
- Join Us
- Standards & Specs
- Working Groups
- Committees
- Events
- News
- Contact Us
- Site Map
- Newsfeeds



SEARCH

Follow us



US Organization that sets: Technical Standards in Health Care *Virtual Patient Standards

Discussion List

[Virtual Patient Discussion List](#)

Workspace

[Virtual Patient Working Group Wiki](#)

Documents

- [Virtual Patient Data Draft Specification](#) (PDF, 2 MB)
- [Virtual Patient Player Draft Specification](#) (PDF 787 KB)
- [Virtual Patient Schemas](#) (ZIP 5 KB)
- [Working Group Charter](#) (PDF, 31 KB)

Co-Chairs

- Rachel Ellaway, Ph.D., Northern Ontario School of Medicine
- J.B. McGee, M.D., University of Pittsburgh

Members

- Spenser Aden, Healthstream

Group of medical schools interested in developing and sharing Virtual Patients within Europe European Union Grant for 3-year



[Home](#)

[About eViP](#)

[Virtual Patients](#)

[eViP News](#)

[Resources](#)

[Contact](#)

Welcome to eViP

Welcome to the eViP website! This site is dedicated to bringing you information about the eViP programme, a collaboration between nine universities and MedBiquitous Europe.

eViP aims to create a bank of 320 repurposed and enriched virtual patients. These virtual patients will be available under a Creative Commons Licence.

All virtual patients are repurposed using MedBiquitous Virtual Patient Technical Standards.



AMEE 2009 Malaga, Spain

[Click here for news, commentary & analysis](#)



eViP Partners

eViP is a collaboration between nine universities located across Northern Europe and [MedBig \(Europe\)](#) who lead the field of technical standards and specifications for e-based healthcare. Click on the institution logo for more information.



eViP Associates

eViP also works closely with MedBiquitous (Europe), the University of Northern Ontario in Canada, and is co-funded by the European Union. Click on the logos below for more information.



Aims of eViP

- Create a bank **320 reusable** VPs
 - Develop **Technical standards**
 - **Repurpose** existing cases
- **Contact “like minded” centers**
 - 1st International Conference
 - Krakow, Poland - June 2009
 - London, England - April 2010



Developing reusable cases

Repurpose & Enrichment

- Dr. A in country B has a case that I would like to use on my course to teach my students

- *However!!!*
 - The case is written in German not English
 - Some of the histology slides need improving
 - The picture with a religious cross may be offensive to my muslim students
 - Should I be using photos that may identify the patient?

Repurpose & Enrichment

Strip the CASE down to basic structure & contents

Enrich it with new pictures & laboratory data

Depersonalize & remove any cultural aspects

Translate into different languages

Make it available in a bank of cases / VPs

Conforms to MedBiquitous standards format

Now I can import the case into my system and use it

Ownership of cases:

- “I have put a lot of time and effort into developing my VP cases”.
- “How do I get credit for all my hard work?”

Authoring Virtual Patients:

Association of American Medical Colleges

- **MedEdPORTAL**

(www.aamc.org/mededportal) is a free **peer-reviewed publication service** and **repository** for medical and oral health teaching materials, assessment tools, and faculty development resources.

- All **copyright and patient privacy issues** are addressed during the submission process so users around the globe can download and utilize any and all of the published resources for educational purposes without legal infringements.

MedEdPORTAL (www.aamc.org/mededportal) is a free peer-reviewed publication service and repository for medical and oral health teaching materials, assessment tools, and faculty development resources. All copyright and patient privacy issues are addressed during the submission process so users around the globe can download and utilize any and all of the published resources for educational purposes without legal infringements. [More>>](#)

News

[Notes from the Editor](#)

MedEdPORTAL strives to maintain a comprehensive pool of expert reviewers. At this time MedEdPORTAL is asking the community to nominate reviewers for the following specialty areas: Pediatrics, Anesthesiology, Neurology, General Surgery, Dermatology, and Psychiatry.

[MedEdPORTAL Recognizes Published Authors and Peer Reviewers](#)

In the summer of 2008, MedEdPORTAL mailed formal thank you letters to each reviewer who had completed a review within the prior academic year. Based on the positive feedback that was received from this effort, MedEdPORTAL decided to repeat this annually to recognize these individuals and their invaluable contributions to the program. MedEdPORTAL would like to extend our thanks to our reviewers once again for volunteering their time and expertise in order to ensure the quality of each and every MedEdPORTAL publication.

[AAMC 2009 Annual Meeting: The MedEdPORTAL Agenda](#)

The Association of American Medical Colleges (AAMC) will host its 2009 annual meeting in Boston, MA from November 6-11, 2009. These sponsored sessions will be held at the Hynes Convention Center, Marriott Copley Place, and Sheraton Boston. MedEdPORTAL® will conduct sessions which will take place on Saturday, November 7, 2009, in the Hynes Convention Center.

[Read More News](#)

MedEdPORTAL Partially Funded By



Featured Publications



[Unprofessional Behaviors Identified by SPs During an OSCE](#)

Eric Alper, MD
University of Massachusetts

***Special Clearance Required**



[Pediatric Medical Spanish Vignettes](#)

Angelika Rampal, MD
University of California Los Angeles David Geffen SOM



[Fixed Prosthodontic Learning Dossier Assignment](#)

Vanessa L. Swain, DMD, MSc
University of Manitoba Faculty of Dentistry



[Contact Dermatitis: A Learning Module](#)

Lauren Cao, B.S.
Case Western Reserve University School of Medicine

[Browse All Publications](#)

Featured Collections



[Radiology](#)



[Psychiatry](#)



[Pediatric Virtual Patients](#)



[Team-Based Learning](#)

Partner Collections



[Dental](#)



[Multimedia Assets](#)



[Geriatrics](#)

[Browse All Collections](#)

Monthly News

October 2009

MedEdPORTAL Featured Publications

Notes from the Editor: The Anatomy of Peer Review

Join MedEdPORTAL for a Poster Session, Award Ceremony, and Reception

MedBiquitous Annual Conference and 2nd International Conference on Virtual Patients

MedEdPORTAL Featured Publications

The MedEdPORTAL team would like to feature the following publications:



Scholarship of Application: When Service is Scholarship - A Workshop for Medical Educators
Linda Tewksbury, M.D.
New York University School of Medicine



Gallery of Prosthodontic Procedural Technique Videos
Ranier M. Adarve, DMD,MS, MHPE
University of Minnesota School of Dentistry



Cultural Competencies Online for Medical Practice (CCOMP): A Clinician's Guide to Reduce Cardiovascular Disparities
Carlos Estrada, MD, MS
University of Alabama School of Medicine



A Quality Improvement Curriculum for Internal Medicine Residents
Darcy A. Reed, MD, MPH
Mayo Medical School

MedEdPORTAL Publication Abstract



Published 09/29/2009

[Access/Download Resource](#)

[Submit A Comment](#)

[View Publication Citation](#)

[View Copyright License](#)

Title: Scholarship of Application: When Service is Scholarship - A Workshop for Medical Educators

MedEdPORTAL ID#: 7734

Version: 1

Resource Type: Faculty Development Materials

Description: This workshop is designed for delivery to a group of health care educators interested in advancing their scholarship in medical education. A detailed instructors' manual provides all information necessary for facilitators to conduct the workshop. The goal of this workshop is to provide participants with practical guidance for turning their educational service into scholarship. Through this workshop, participants will develop a firm understanding of the scholarship of application, one of the four types of scholarship outlined by Ernest Boyer in 1990.

The scholarship of application involves service and the use of knowledge to solve problems of individuals or society. Examples of applying knowledge in medical education include curriculum development, clerkship restructuring, and development and implementation of evaluation tools or new programs. While medical educators typically engage in such activities, many do not recognize that such activities have the potential to qualify as scholarship. Participants will have the opportunity to go through the process of moving an educational project through the steps necessary for it to qualify as high quality scholarship, based on Glassick's six characteristics of scholarship. Finally, participants will have the opportunity to apply the characteristics of scholarship to their own educational endeavors and discuss opportunities for the dissemination of such work. This workshop was developed by the Research and Scholarship Task Force of Council for Medical Education in Pediatrics (COMSEP) to support and recognize scholarship of medical educators.

Author Institution: New York University School of Medicine

Primary Author:

Linda Tewksbury, M.D.
New York University School of Medicine
Department of Pediatrics
550 First Avenue
New York, NY 10016
USA
212-562-6430
lrt1@nyumc.org

Other Authors:

Robin English, M.D.
Louisiana State University School of Medicine in New Orleans
REngli@lsuhsc.edu

Specialty/Discipline:

- Medicine: Undergraduate Medical Education

Educational Objectives:

- 1.) To be able to define the scholarship of application and the six characteristics of high-quality scholarship;
- 2.) To be able to critique, review examples of application in medical education for evidence of scholarship;
- 3.) To be able to apply the characteristics of scholarship to their own educational applications.

Resource Keyword/Symptom:

- Medical Education
- Scholarship
- Scholarship of Application

Accreditation Council for Graduate Medical Education (ACGME) Competencies Addressed:

- Practice-Based Learning and Improvement

Intended Learner Audience:

- Medical Fellows
- Continuing Medical/Dental Education (CME) for Faculty Self Learning

Intended Faculty Audience:

- Clinical Science Faculty
- Clerkship Director / Clinical Science Course Director
- Residency Program Directory

Effectiveness and Significance of Publication:

This workshop has been evaluated in the following ways by participants of the workshop at the annual meeting of a professional organization for pediatric medical educators (Tewksbury L, Hanson J, Christy C, English R, Spoto-Cannons A & Talib N (2008) The Scholarship of Application: When Service is Scholarship. Council on Medical Student Education in Pediatrics Annual Meeting, Atlanta, GA, Apr. 2008). Participants included educators with a range of experience, from junior faculty new to medical education to senior faculty with significant educational experience. Educators were from institutions from across the country (Northeast, Southeast, West Coast, and Midwest all represented) as well as Canada.

Twenty-five of approximately 30 participants completed the meeting's standardized evaluation form required for CME. Nearly all rated the workshop "excellent" (5 on a 5-point Likert scale) in delivery, content, objectives met, interactivity and overall effectiveness, with an average score of 4.8 for overall effectiveness. Twenty-nine of approximately 30 participants completed a workshop peer feedback form developed specifically for this workshop, designed to provide information that would help the planners revise the workshop for future presentations. Nearly all agreed or strongly agreed that the workshop allowed them to be fully engaged, helped them see how to turn their projects or service into scholarship, provided a balance between theoretical and practical information, and provided useful resources.

This workshop was initially developed as a 90 minute workshop but could easily be adapted to a 120 minutes. Ideal participant:facilitator ratio is 1:6. Detailed guidelines are provided in the Instructors' Manual.

Lessons Learned:

In preparing for this workshop, facilitators themselves (all experienced medical educators) initially struggled with the definition of Scholarship of Application as applied to medical education, finding little published in the literature. As we further explored and discussed this topic, all agreed that there was tremendous opportunity for medical educators for this type of scholarship, but little practical guidance for how to take an educational project and turn it into scholarship. In addition, facilitators found the process of creating and working through the steps provided by the workshop themselves to be very beneficial for their own professional development. Each facilitator was able to identify a current or past project and develop a better understanding of the specific steps needed to ensure that the project met criteria for high-quality scholarship.

Immediately following the workshop, all facilitators debriefed on the experience, reflecting on the comments provided by participants both verbally and on the peer feedback forms that were immediately available. Facilitators discussed strengths and challenges of the workshop and discussed potential modifications for future workshops. Facilitators were impressed by the overall positive response to the workshop and how valuable and relevant it was to the participants' work. Recommendations for improvement emphasized the need for more time (one reason we provided an alternative schedule for a two-hour workshop in this instructor's guide) and requested a more complete bibliography of published examples of the scholarship of application (now included in the reference section of the instructor's guide).

Publications, Presentations, and/or Citations For This Publication:

Tewksbury L, Hanson J, English R, Spoto-Cannons A, Talib N. The Scholarship of Application: When Service is Scholarship. Workshop presentation, annual meeting of the Council on Medical Student Education in Pediatrics, April, 2008, Atlanta, GA

Sponsorship (Funding Source):

None.

Citation Formats:

- **NLM:**

Tewksbury L, English R, Christy C, Gigante J, Spoto-Cannons A, Talib N, et al. Scholarship of Application: When Service is Scholarship - A Workshop for Medical Educators. MedEdPORTAL; 2009. Available from: <http://services.aamc.org/30/mededportal/servlet/s/segment/mededportal/?subid=7734>

- **APA:**

Tewksbury, L., English, R., Christy, C., Gigante, J., Spoto-Cannons, A., Talib, N., et al. (2009). Scholarship of Application: When Service is Scholarship - A Workshop for Medical Educators. MedEdPORTAL: <http://services.aamc.org/30/mededportal/servlet/s/segment/mededportal/?subid=7734>

Copyright:



Reviewed by:





Thank you