

Inventor(s): Allen Y. Tien

Address(es): 7921 Ruxway Road, Baltimore, MD 21204-3515

Title of Invention: Automated CME integrated with clinical practice

To record **Conception**, describe: 1. Circumstances of conception, 2. Purposes and advantages of invention, 3. Description, 4. Sketches, 5. Operation, 6. Ramifications, 7. Possible novel features, and 8. Closest known prior art. To record **Building and Testing**, describe: 1. Any previous disclosure of conception, 2. Construction, 3. Ramifications, 4. Operation and Tests, and 5. Test results. Include sketches and photos, where possible. Continue on identical copies of this sheet if necessary; Inventors and witnesses should sign all sheets.

1. I thought of this system for professional education and certification on August 9, 1999, while filling out the forms for renewing my medical license and being reminded that I needed to have completed 50 Credit Hours of Continuing Medical Education (CME) as part of the requirements for licensing in the State of Maryland. CME Credit Hours are usually obtained through attending certified courses, conferences, or by participating in educational activities such as listening to tapes and filling out questionnaires, or by reading and or listening to educational material via a web site, and filling out a questionnaire. Physicians need to spend a significant amount of time to ensure that the CME requirements for licensing are met, and this may at times be an inconvenience and or inefficient. Thinking that there is a better way, I connected the idea of software support for clinical practice with the simultaneous presentation to the clinician of CME material directly relevant to the clinical activity.

2. This software system or system component will work through integration of clinical assessment, diagnosis, and treatment with simultaneous or immediately subsequent presentation to the clinician of new CME materials specifically related to the current patient, and in turn, after a brief test, documenting the appropriate amount of Credit Hours. One advantage of this is that the clinician would have the most up-to-date information relevant to the current patient, thereby improving the quality of the clinical process. Another advantage is that the CME requirements for licensing will be automatically fulfilled. A third advantage is that the logging of Credit Hours will be automatically carried out. A fourth advantage is that the clinician can be automatically reminded of the need to accumulate the required number of Credit Hours.

3. The automated CME system consists of a number of software components, working along side an existing software system supporting the clinical process. One is a data base or table(s) that contains CME educational and related testing materials. Another component is a data base or

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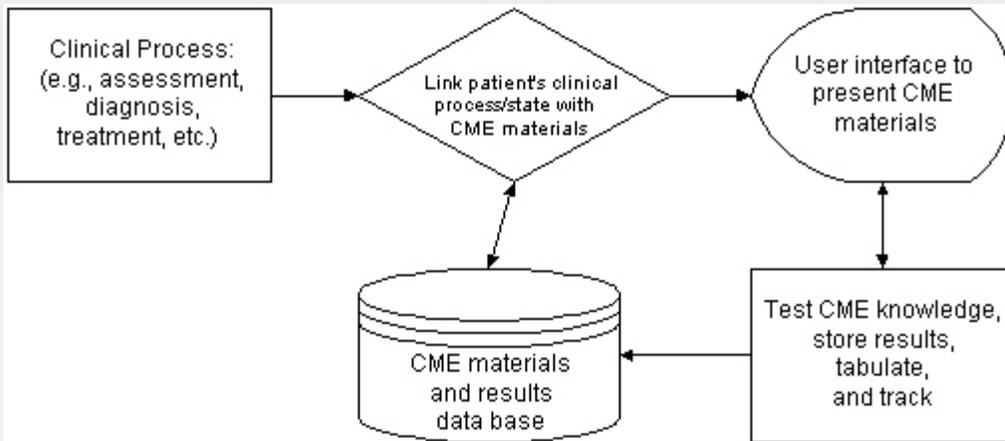
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table(s) that store test responses and the related amount of Credit Hours. Another component links the CME materials to the clinical process. The clinical process consists of activities such as assessment, diagnosis, and treatment of a patient. When these and related activities are supported by a software system, it is practical to link the clinical process with the automated CME system. The linkage is through clinical information, for example symptoms or diagnoses. For example, a certain diagnosis will provide a link to a range of CME topics and subtopics. Thus, just after making a diagnosis of a patient, the clinician would have the option to be presented with a specifically pertinent item of CME material, view the material, and subsequently answer a question or set of questions testing the acquisition of this information. The test result would be stored, and the accumulative number of Credit Hours checked and reported as necessary. The system would include the user interface, and would function either in a stand-alone environment or a network. The user interface could be a desktop monitor, laptop, notepad, personal digital assistant (PDS), or any other user interface device, current or future.

4. Sketch:



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5. The system functions in conjunction with an existing software system supporting the clinical information process of assessment, diagnosis, and treatment, and the interactive relationship between a patient and a clinician. The system will detect the input or derivation of clinical information. When clinical information is present that the system can link to pertinent CME material, the system will indicate to the clinician through the user interface that CME material is available. Approved CME materials would be regularly obtained by electronic means from an accredited source. The clinician will then have the option to view the CME material. If the clinician chooses to view the CME material, the material will be presented through the user interface. If desired, it could be printed out. The user interface presentation of the CME material would also contain links to related material, which the clinician could choose to explore and examine further. These materials may or may not be CME materials. This would provide the clinician with efficient access to a range of information pertinent to the current patient. When the clinician leaves the material, the CME test items for the material are presented to the clinician. The system would track existing CME for the clinician to prevent redundancy. The clinician can immediately answer the test items, and if answering adequately, is issued the corresponding amount of CME Credit Hours. This amount is stored in the data base or table(s) in a permanent fashion. Documentation of the CME Credit Hours thus accumulated by the clinician can be further provided through hard copy print-outs, or through electronic transmission to the appropriate recipient.

6. This system could be applied to other professional activities where periodic licensing renewal requires on-going education and certification.

7. I believe that the software-based linking of CME materials to the clinical process, enabling simultaneous presentation to the clinician of information pertinent to the current patient, and

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immediate assessment and documentation of the CME Credit Hours is novel.

8. The current methods closest to my invention for CME are web sites that present written and or multimedia (audio, video) education materials, followed by test items. Upon answering a successful proportion of the test items the clinician is issued the corresponding amount of CME Credit Hours. Two such sites are the WebMD site at www.webmd.com and the Medscape site at www.medscape.com.

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