Assessing Medical Informatics Confidence Among 1st and 2nd Year Medical Students

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Abstract
Currently no medical informatics curriculum is required at US medical schools. In 1998 the Association of American Medical Colleges (AAMC) Medical School Objectives Project (MSOP) identified topics for inclusion in medical school curriculum, categorized in five domains: Life-Long Learner, Educator/Communicator, Clinician, Researcher, and Manager. Here we present the results of a web-based survey of 1st and 2nd year medical students at Case Western Reserve University (Case). The survey determined the perceived skills of 1st and 2nd year students in the five domains of medical informatics as defined by the AAMC.

Methods
In February 2006, the medical school classes of 2008 and 2009 were invited to complete an online survey designed to assess their perceived levels of achievement in the five areas of medical informatics.

Results
The survey response rate was 45% (128 of 285). No statistically significant differences existed between the answers of 1st and 2nd year medical students.

Those surveyed were asked to rate their level of agreement to questions concerning specific MSOP skill objectives (such as "I can use computer software to create graphs and tables of medical information.") Respondents ranked their level of agreement on the following 6 point Likert scale:
1-*Strongly Disagree* 2-*Disagree* 3-*Slightly Disagree*
4-*Slightly Agree* 5-*Agree* 6-*Strongly Agree*

Students rated lowest their abilities in the following areas:

- Exposure and ability to use clinical information systems (Clinician)
- Competency in accessing databases of clinical information (Clinician)
- Knowledgeable about advocacy resources (Manager)

Students rated highest their abilities to:

- Use online resources (Life-long Learner)
- Use software to make graphs (Educator)
- Prepare presentations (Educator)

The confidence in each medical informatics domain is presented in Figure 1.

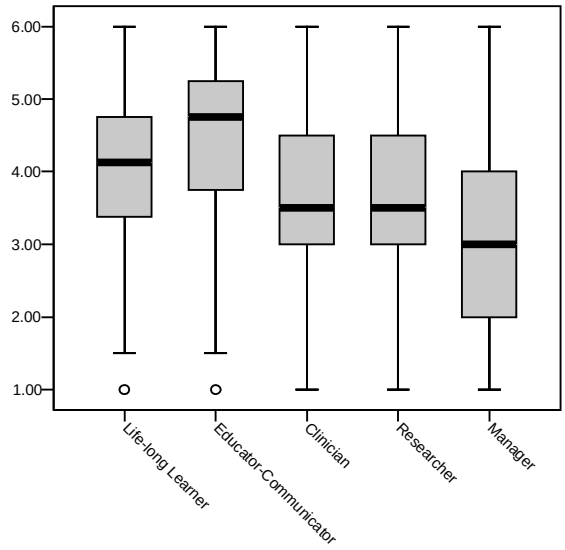

Figure 1 *Box Whisker Plot showing median and interquartile range for each domain defined by the MSOP.*

Students commented that they lacked proficiency in many medical informatics skills and wished for more formal education in these areas.

Conclusions
Currently, the Case School of Medicine, similar to most other US medical schools, has no formal medical informatics curriculum, although much literature exists as to what components could be included in such a curriculum. Our survey showed that students do not feel confident in their ability to apply medical informatics to their practice of medicine. This survey documents the need for formal medical informatics training to ensure that medical students gain the medical informatics skills they need to be effective clinicians in the future.

Reference
AAMC - Medical School Objectives Project. Learning Objectives for Medical Student Education: Guidelines for Medical Schools. January 1998. http://www.aamc.org/meded/msop/msop1.pdf