ANATOMY OF A SCHOLARLY PROJECT — FROM CONCEPTION TO REALITY AND INITIAL EXAMPLES OF SUCCESS

ANATOMY OF A SCHOLARLY PROJECT

BACKGROUND

Analytical thinking is a critical skill needed by medical students who face ever increasing amounts of information.

To help our students develop these skills, the University of Pittsburgh requires students to complete a Scholarly Project (SP).

The Scholarly Project may include traditional research or other scholarly work that involves mentored activity completed longitudinally throughout medical school.

This paper describes the educational and administrative structures put in place to assure that students complete high quality scholarly activity and receive appropriate mentorship and guidance.

METHODS

Building a successful scholarly requirement into the medical school curriculum necessitates a balance of centralized oversight to maintain uniform programmatic standards and individualized attention to and oversight of student learning.

Essential in this endeavor is communication. Communication is enhanced by an interactive student website known as the ZONE.

Mentoring and Oversight

Mentors provide the most important level of individualized attention for the student.

Using individual learner-based websites, each student selects a mentor and a project based on area of interest.

Students electronically request mentor approval of the Scholarly Project proposal, collaborate and communicate with others around the project, complete quarterly reports, and request mentor approval of the final Scholarly Project report.

CONCLUSIONS

We have created an innovative structure for administering a large scale curricular initiative that promotes student engagement in the educational process and facilitates communication, feedback, and documentation, so that this required activity will be enjoyable and rewarding for our students.

INITIAL EXAMPLES OF SUCCESS

BACKGROUND

In May of 2008 the University of Pittsburgh will be graduating its first class of students who have completed the full four years of the initiative.

The goals of the Scholarly Project are to

• foster analytical thinking skills and the development of tools for rational decision-making in future physicians;
• provide role models, mentorship, and guidance for students to foster interest in careers that integrate research, teaching, and clinical service;
• enhance the medical school culture of self-directed and peer group-fostered learning;
• enhance the oral and written communication skills of graduating medical students.

METHODS

Students are able to work on their Scholarly Project through all four years of medical school and can spend focused time by completing summer research between the first and second year and mentored electives during the third and fourth years.

Students may choose their mentored research theme from a wide array of possibilities, from outcomes research to evolutionary molecular biology.

RESULTS

• Currently 450 students in three classes at the University of Pittsburgh are actively involved in the SP.
• These students demonstrate excellent productivity in terms of abstract and paper production and have won numerous national awards for their SP work.
• The oversight structure identifies students who are not meeting requirements, experiencing difficulty with their mentor, or having questions. SPEC and SP Director oversight improves the intellectual rigor of the students’ SPs.
CONCLUSIONS

Students are able to be very productive on their Scholarly Projects during the four year medical curriculum.

These projects and their outcomes demonstrate the achievability of the program goals, including

- the development of in-depth knowledge in a focused area;
- the ability to synthesize and critically evaluate published work by others;
- the generation and completion of new studies that advance the health sciences.

Through this mandatory curricular element we hope to interest more students in research careers, and to endow all of our graduates with the confidence needed to be creative and analytical clinicians.

EXAMPLES OF STUDENT PROJECTS

Understanding the Role of HMGB1 in Tumor Progression
Jessica Elizabeth Ellerman (MS-4), Michael T Lotze, Anna Rubartelli

**Hypothesis**
Cancer is fundamentally a disorder of cell death and release of the nuclear factor, HMGB1, from necrotic cells paradoxically promotes tumor growth. Acetylation enhances cytosolic HMGB1: we suspect that cancer cells have more cytosolic HMGB1 than normal cells.

Effect of Hemorrhagic Shock After Experimental Traumatic Brain Injury in Mice
M. Lee Haselkorn (MS-4), Patrick Kochanek, Alia Dennis, Vince Vagni, Keri Janesko-Feldman, Robert Clark, Larry Jenkins, C. Edward Dixon

**Hypotheses**
- Hippocampal neuronal death will be exacerbated by HS after experimental TBI using controlled cortical impact (CCI).
- Extent of hippocampal neuronal death after experimental TBI will depend on the duration of HS.
- CA1 sector of the hippocampus -- a region known to be vulnerable to ischemia -- will exhibit selective vulnerability to combined TBI + HS.

Clinical Outcome with Adjuvant Treatment of Endometrial Carcinoma using Intensity-Modulated Radiation Therapy
Sheena Jain (MS-4), Sushil Beriwal, Dwight Heron, Hayeon Kim, Kristina Gerszten, Robert Edwards, Joseph Kelley

**Objective**
To assess local control and chronic toxicity with IMRT for adjuvant treatment of endometrial carcinoma.

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