Lessons Learned—UME-21 Project

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The Undergraduate Medical Education for the 21st Century (UME-21) project evolved from two prior projects that were aimed at studying the interface between managed care and undergraduate medical education. The project provided funding for 18 US medical schools to demonstrate how they would produce graduates who eventually could practice in a rapidly changing health care environment. Medical schools were required to provide educational opportunities in nine content areas or outline why such educational opportunities could not be provided in their individual projects. Participating schools were chosen via an involved process after careful evaluation by a panel of experienced medical educators. In a project of this type, many lessons are learned. In the UME-21 project, lessons learned were gleaned from progress reports, participant annual reports, proceedings from annual project meetings and a National Symposium, findings of a National Education Group, and published papers. A lesson must have been reported by a least two involved schools to be included. The lessons learned were divided into six categories as follows: content areas, implementation, collaboration, evaluation, governance, implications-summary. Many lessons emanate from each of these categories; however, only the 10 most important lessons in each category are presented. The implications of the lessons learned are outlined and provide direction for the future of medical education innovation and research.

(Fam Med 2004;36(January suppl):S146-S150.)

Medical education and health care in the mid 1990s were in a state of significant flux and remain so into the early 2000s. Some medical educators feel that medical education is in the early stages of a revolution that will eventually result in substantial change in both the content and process of its educational offerings.1

The Undergraduate Medical Education for the 21st Century (UME-21) project was created in an attempt to address some of the issues faced by medical education, particularly the challenge of medical schools effectively and efficiently training their graduates to practice in a rapidly changing health care environment. UME-21 was initially approved for implementation in 1996 by the Division of Medicine and Dentistry, Bureau of Health Professions, Health Resources and Services Administration and a request for proposals was issued late in 1997. In that the initiative was classified as a demonstration project, the expectations were that medical schools and their partners would produce meaningful innovation in medical education that would be generalizable to the medical education community as a whole. This paper outlines select outcomes of the project and the lessons learned from these outcomes. Those lessons learned by the people who managed and administered the project will also be included in this paper.

Background

During the developmental stages of the project, it was felt that demonstrations were needed to allow medical schools to experiment with methods to educate physicians to face a changing health care environment and to stimulate improved working relationships between medical schools and managed care organizations (MCOs). There is evidence from an unpublished study performed by the American Association of Colleges of Osteopathic Medicine (AACOM) and funded by the Health Resources and Services Administration (HRSA) that there was little interest from MCOs in becoming involved in undergraduate medical education. This finding was in the context of a health care system that was undergoing a dramatic transformation in the way health care was delivered, with the management of care becoming a very significant factor. Other forces were also noted, such as an increasing amount of health care being delivered in outpatient, community-based settings.
that were outside of the traditional teaching hospital and health care more focused on health promotion and disease prevention.

As discussions relative to the project progressed, it became increasingly obvious that the actual medical school demonstrations should be centered in the area of competencies that future physicians would need to practice in an ever-changing health care environment. This decision was based on the realization that the managed care models would change dramatically in the future. However, the concept of the management of care would persist. Thus, the involved medical schools were required to demonstrate how they would attempt to better prepare their graduates for practice in continuingly evolving environments of practice. From these medical school efforts and project management activities, important lessons were learned.

Identifying Lessons Learned

Many sources of information were available from which lessons learned could be gleaned. The UME-21 Executive Committee decided that information would be drawn from five major sources and that a lesson must have been reported by at least two involved schools to be included.

(1) Progress Reports

The participating schools were initially required to submit quarterly progress reports during the first 2 years of the implementation phase of the project and then semi-annual reports during the last year of implementation. These reports were submitted using a standard format that had been devised by the Executive Committee and that requested significant information concerning process and outcomes of the individual projects. These formative reports were evaluated by the Executive Committee in concert with staff from the Division of Medicine and Dentistry, Bureau of Health Professions, HRSA, and feedback was provided from Executive Committee members to the individual project directors.

(2) Annual Reports

Summative reports that followed a standard format were also required. The final annual report encompassed the entire project, including a presentation of lessons learned. These reports were discussed in depth by the Executive Committee with feedback then provided to the involved medical school project directors.

(3) Annual Project Meetings and National Symposium

During the course of the project, three annual project meetings and a national symposium were held. These meetings were designed to provide a forum for candid exchange of issues, problems, new ideas, and lessons learned. The format consisted primarily of large- and small-group presentations as well as small-group discussions during which specific issues were addressed. After each annual meeting and the national symposium, proceedings were written from which lessons learned were extracted.

(4) Findings of the National Evaluation Group

One of the overall project requirements was the engagement of national evaluators who would evaluate the entire project from a perspective external to the participating schools. Each of the partner schools was also required to have an internal local evaluator assess their single project. The Center for Research in Medical Education and Health Care of Jefferson Medical College performed the national evaluation. The Center provided interim reports to the project’s Executive Committee, which contained lessons learned.

(5) Published Papers

Several papers related to UME-21 have been published in peer-reviewed journals. It is expected that several other papers will be submitted and published. From those publications, lessons learned during the UME-21 demonstration phase were extracted.

Lessons Learned

A project of this size and complexity produces lessons learned in many categories. However, for the sake of presentation and to facilitate use of these lessons, they were divided into six categories as follows: content areas, implementation, collaboration, evaluation, governance, and implications-summary.

As might be expected, there is some degree of crossover among these various categories. Although many lessons were learned in each of these categories, it was decided to present what were determined to be the 10 most important lessons in each individual category.

Content Areas

To provide further framing of the project for the reader, it is important to point out that the UME-21 project had nine content areas embedded within it (Table 1) that were included in most of the partner school projects. During the course of the project, a subgroup of medical students at local sites questioned the importance of certain content areas. Relative to these nine content areas, medical educators should not underestimate the ability of students to champion innovation or faculty to stifle change. To successfully implement these content areas, physician role models must validate their importance and reassure students. Finally, it was found that within each of the content areas, unfavorable student ratings and inevitable complaints that follow correlate more with poor course organization than weak content.
Table 1

Content Areas and Lessons Learned

<table>
<thead>
<tr>
<th>Content Areas</th>
<th>List 3-Evaluation-Local and National</th>
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<tbody>
<tr>
<td>• Health systems finance, economics, organization, and delivery</td>
<td>• National evaluators must be involved during the initial planning stages of the project and to its completion</td>
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<tr>
<td>• Practice of evidence-based, epidemiologically sound medicine, with</td>
<td>• National evaluation plan must be available to individual projects during their planning phase</td>
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<td>particular emphasis on a population-based perspective</td>
<td>• Exact function of the national evaluation effort must be understood by all involved projects</td>
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<td>• Ethics</td>
<td>• Evaluation must be early and often, especially local evaluations</td>
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<td>• Development of effective patient-provider relationships and</td>
<td>• Monies should be allocated to allow evaluation to continue 1 to 2 years following termination of local funding</td>
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<tr>
<td>communication skills</td>
<td>• Adequate funding must be available to conduct specific and rigorous local evaluation</td>
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<tr>
<td>• Leadership</td>
<td>• Evaluation of student must be especially rigorous</td>
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<td>• Quality measurement and improvement, including cost-effectiveness and</td>
<td>• Be aware of “over-evaluation” of students</td>
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<tr>
<td>patient satisfaction</td>
<td>• Evaluation instrument should be standardized across schools with similar curricular innovations</td>
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<tr>
<td>• Systems-based care</td>
<td>• Cooperation, collaboration, and communication between local and national evaluators is essential</td>
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<tr>
<td>• Medical informatics</td>
<td></td>
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<tr>
<td>• Wellness and prevention</td>
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List 1-Implementation

• Integrate new into traditional curriculum
• Avoid terms managed care and managing care
• Support of the dean is essential
• Support and involvement of high-level administration is very important
• Physician role models (both medical school faculty and community physicians) must validate importance of content areas
• Unfavorable student ratings correlate more with course organization than weak content
• Innovations require a champion
• Engage as many stakeholders as possible early on
• Partners must be involved in both planning and implementing change
• Communication is essential if the innovation is to be successful

List 2-Collaboration

• External partner relationships are very dependent on relationships between individuals and not necessarily with organizations
• If collaborating with an MCO, be prepared to “change dance partners” as MCOs merge or cease operation
• MCO partners add significant value when the partnership works well
• Make sure partnerships are real and genuine rather than superficial and without significant substance
• Academic health centers and MCOs can work collaboratively to bring about curricular change
• Efforts should be expanded to create ongoing working relationships among participating schools
• Collaboration among health care disciplines can be achieved in a well thought out project
• Primary care disciplines working together have greater influence than working individually
• UME-21 promoted collaboration that had not previously existed and beyond just the extended partners
• Project provided a focus for assessing mutual concerns of the multiple participants

List 4-Governance

• The success of curricular innovation is dependent on the commitment and expertise of leadership at the medical school level
• Top-down implementation strategies should be avoided
• A national project manager is critical
• A stable project Executive Committee is a valuable asset
• Communication with the Advisory Committee is essential to allow it to provide advice when needed
• Deliberations of both the Executive and Advisory Committees must be widely shared
• Yearly project meetings are extremely important as a method for sharing information and promoting collaboration among schools
• Projects like UME-21 should include sufficient funds to compensate faculty for educational activities in place of clinical time
• Schools should be provided funds for planning
• Ongoing advice and support from the funding agency and Project Officer was an important element of this project

List 5-Implications

• Large and expensive projects of this type are necessary to stimulate medical education innovation
• Small amounts of money can go a long way
• Medical education must carefully examine the balance placed on medical education research versus federal dollars expended on biomedical research
• For innovation to succeed, a champion or champions of the effort must be involved
• Curricular innovation efforts must be undergirded by a spirit of flexibility, yet schools must remain true to their educational values
• Future initiatives must have a sense of priority within the medical school if they are to succeed
• Curricular innovation requires widespread support
• It is difficult to alter the third and fourth years of medical school
• Cooperation and collaboration with external partners can be accomplished
• Without communication, projects of this magnitude cannot succeed

Implementation (List 1)

This category consists of lessons learned during implementation of the medical schools’ individual projects. Some of the lessons learned in this category are self-evident and have been noted previously in other demonstration projects, while others are new and provide valuable information for medical schools embarking on change and innovation.

The UME-21 project was fundamentally focused on innovation in medical education. The project demonstrated that innovation requires a champion both at the medical school and at the partner organization and that to successfully implement change, as many stakeholders as possible must be engaged early on. If medical school partners are to be involved in innovation, they must be involved in both the planning and implementation of the change.
Two levels of administrative support were found to be necessary and possibly even essential to assure the success of the projects. The support, but not necessarily direct involvement, of the medical school dean is essential, whereas both support and involvement of a high-level administrator, such as a curricular dean, is very important to create and sustain successful change.

Communication was a theme that was found across all of the categories of lessons learned. It was determined that effective communication with students, faculty, partners, and those involved in the community is essential if the innovations are to work efficiently and effectively.

It was found that it is advisable to integrate new curriculum into the traditional curriculum, when possible, rather than starting anew. UME-21 schools that followed this principle generally were more successful than those that attempted totally new curricula. Schools also reported that in a project of this type, the term managed care should be avoided. In many of the participating schools, there was some degree of “backlash,” both among students and faculty when this term was used.

**Collaboration (List 2)**

Collaboration was necessary within the many parts of the UME-21 project. The participating medical schools were required to recruit at least one external partner who would be intimately involved in the project. It was found that these external partner relationships are dependent on relationships between individuals and that these individual relationships were more important than institutional affiliation. The majority of the involved medical schools chose managed care partners; however, in many instances this became problematic because of regular changes in high-level administrators of the MCOs. Thus, if one partners with an MCO, “be prepared to change dance partners.” It was also determined, however, that the MCO partners were important and added significant value when the partnerships worked well. Also, involved medical schools found that when entering into such a partnership arrangement, the partnerships must be real and genuine rather than superficial and without significant substance.

On the positive side, several of the involved schools found that academic health centers and MCOs are able to work collaboratively to bring about curricular change. It was suggested that in projects of this type, emphasis should be placed on the development of ongoing working relationships (collaboration) among participating schools. Collaboration among diverse health care disciplines, including the three primary care entities, can be achieved in a well thought out project. Also, the primary care disciplines working together have greater influence than working individually.

Finally, the project provided focus for assessing the mutual concerns of medical students, medical educators, and health care systems in an era of rapid change.

**Evaluation-Local and National (List 3)**

As has been previously stated, one of the project requirements was that both national and local project evaluation was essential. Within these evaluation efforts, many lessons were revealed.

One lesson was evident early in the project: the national evaluators must be involved during the initial planning stages of the project and remain engaged to its completion. The national evaluation plan must be made available to the individual projects during their planning phase, and the exact function of the national evaluation effort must be understood by all involved project leaders. Cooperation, collaboration, and communication among the local and national evaluators is essential to evaluate effectively projects of this type and produce meaningful data. It was found that since some schools had similar curricular innovations, evaluation instruments should have been standardized across these schools.

The frequency and timing of evaluation at the national and local levels was discussed as the project moved along. Most felt that evaluation must be early and often, especially local evaluation, and that adequate funding must be available to conduct specific and rigorous local evaluation. It was also felt that in a large project such as UME-21, monies should be allocated to allow national evaluation to continue 1 to 2 years following termination of funding for individual projects. While the evaluation of students must be especially rigorous in any innovation in medical education, the issue of “over-evaluation” was also raised. Students should not be asked to perform too many evaluations involving too much time and too many documents.

**Governance Issues (List 4)**

As with any large project of this type, efficient and effective governance at both the local and national levels is essential. Throughout the UME-21 project, lessons were learned concerning governance.

To a significant degree, the success of the curricular innovation is dependant on the commitment and expertise of leadership at the medical school level. However, several schools demonstrated that top down implementation strategies should be avoided and that faculty, administration, and students should be partners in implementation of innovation.

Relative to national management and administration of the project, a national project manager is critical and a stable project Executive Committee is a valuable asset. This project had both Executive and Advisory Com-
mittees. Ongoing communication with the Advisory Committee is essential to allow it to provide timely advice. Beyond this issue, the schools felt that the deliberations of both the Executive and Advisory Committees must be widely shared. Annual project meetings were extremely important for sharing information and promoting collaboration among schools.

Governance also involves the financial aspects of the projects. Projects like UME-21 should provide sufficient funding to compensate key faculty for educational activities in place of clinical time. Also, schools should be provided with funding for planning. The lack of this funding and the time to plan and modify existing curriculum was felt to be a major drawback of the UME-21 project.

Of course, the ongoing advice and support from the funding agency (Division of Medicine and Dentistry, Bureau of Health Professions, HRSA) and the project officer was an important element of the UME-21 project.

Implications (List 5)

There are many implications and lessons learned from a project such as UME-21. The majority of them are generalizable across all of medical education.

It was felt by many who participated that substantial investment in large projects of this type are necessary to stimulate medical education innovation that is generalizable. UME-21 resulted in innovative curricular changes in one eighth of US medical schools. It was also found that a small amount of money can go a long way. There is significant concern over future funding of medical education research projects and a feeling that medical educators must carefully examine the balance placed on medical education research versus federal dollars expended on biomedical research. While biomedical research is clearly of critical importance, increasing support for innovations in medical education is also critical to ensure a competent physician workforce to provide high-quality health care in the future.

Also, it was evident that for innovation to succeed, a champion or champions of the effort must be involved. Curricular innovation efforts must be undergirded by a spirit of flexibility, yet schools must remain true to their educational values. Many strongly believe that future initiatives such as UME-21, if expected to succeed, must have a sense of priority within the medical school. The area of support of innovation was laced through many of the lessons learned. Some schools noted that it is very difficult to alter the third and fourth years of medical school. It was felt that curricular innovation requires support of the medical school administration, faculty support and participation, participation by students in the planning phase and beyond, and effective communication with students concerning the importance and relevance of the innovation. Cooperation and collaboration with external partners such as MCOs can be accomplished, as the UME-21 project has demonstrated. Finally, an element that was mentioned again and again was that without frequent communication among all participants, projects of this magnitude cannot succeed.

Conclusions

Many of the lessons learned in the UME-21 project are generalizable and should be of value to the majority of the medical education community. If these findings assist movement forward of medical education, then the money spent and effort expended will have been worthwhile.

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References