

## ASA Workgroup on Simulation Education White Paper

# ASA Approval of Anesthesiology Simulation Programs

### Executive Summary

The Committee on Outreach Education, through the ASA's Section on Education and Research, has convened a Workgroup on Simulation-based Education to help foster the access of ASA members to high-quality simulation-based CME. This document summarizes the Workgroup's deliberations over the past 20 months; it describes a process by which Simulation Programs can be identified, evaluated and approved for this purpose; and, it will inform ASA leadership as the first step toward the establishment of the infrastructure and processes necessary to accomplish this goal. This effort is timely, given the increasing emphasis on the use of simulation in medical education by the national accreditation bodies and other medical societies. In a recent survey of ASA members, conducted by the Workgroup, 82% of 1400 respondents indicated they were interested in simulation-based CME.

The Workgroup *recommends* that the ASA create a Committee on Simulation Education that would apply and refine criteria for simulation program approval, review and approve interested programs, and would begin consideration of standardized, "ASA-endorsed" courses. The Workgroup identified criteria that it believes should form the basis of the approval process. Those criteria would include a mission statement, educational offerings, curriculum development, instructor and course effectiveness, management of performance anxiety, program leadership, provision of CME credit, infrastructure, and business plan. To facilitate understanding and communication, the document initially defines key terms, and provides four appendices on, 1) Results of the ASA Member Poll on Simulation Education, 2) Guidelines on Instructor Credentialing; 3) Handling Performance Anxiety, and 4) the Business Plan.

### **The ASA Workgroup on Simulation Education**

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## **Definitions<sup>1</sup>**

Application: Written materials submitted by a Program as part of its request for ASA Approval.

Approval: The designation of a Simulation Program as one that provides high-quality Simulation Courses to ASA members resulting from a formal evaluation process conducted by the ASA through a Committee on Simulation Education. Approvals will be time-limited.

Center: A well-organized entity where simulation courses are taught. A Center typically is based in a dedicated physical facility that has the infrastructure elements necessary to conduct simulation activities. A Center may support several Simulation Programs.

Committee: The proposed ASA Committee on Simulation Education whose responsibilities, as outlined in this document, include promotion of Simulation education and Approval of Simulation Programs.

Course: A circumscribed educational experience, based on well-defined educational objectives, that uses Simulation as a primary tool for meeting these objectives. In this document, a Course is specifically one intended for ASA members.

ASA Endorsed Course: An envisioned Course, developed and refined under the auspices of by the Committee on Simulation Education, which has standardized structure and content intended to reliably attain its educational objectives.

Course Director: An ASA member with documented knowledge, expertise, qualifications, responsibility, and authority to lead a specific Course.

Criteria: Specific attributes of a Simulation Program which enhance the likelihood of its ability to provide high-quality Courses. The ability of a Program to demonstrate that it meets Criteria established by the Committee is the basis for Approval

Education Technology: All types of PC-based, part-task, and full-scale simulators, audiovisual equipment, clinical equipment and supplies, computers, software (e.g., for scheduling, assessment, debriefing, video archiving), and other equipment and props that support a Program's educational activities.

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<sup>1</sup> These definitions are a critical part of this document. Defined terms are intentionally capitalized throughout this document.

Instructor: An individual with documented course-specific knowledge and expertise, who teaches Courses within a Program.

Credentialed Instructor: An Instructor who has met a Program's guidelines for obtaining special expertise in simulation education.

Credentialed Anesthesiology Instructor: A Credentialed Instructor who is a Diplomate of the American Board of Anesthesiologists or analogous international body

Program: An identifiable entity whose primary mission is to provide Simulation Courses and other Simulation-based activities. A Program is defined by the Courses it offers. Thus, Programs are typically specific to a discipline or training process. A Program can exist within a Center or be independent. An anesthesiology Program may contain Courses, for example, on pain management, anesthesia crisis resource management (ACRM), critical care support, difficult airway management, resuscitation, or cardiac ultrasonography.

Program Director: An individual with documented knowledge, expertise, qualifications, responsibility, and authority to lead a Simulation Program.

Simulation: In this document, Simulation refers to methods of providing realistic educational experiences of relevance to the practice of anesthesiologists. These methods include the use of Education Technology or standardized patients (patient actors). Additional clinical props are typically but not always involved.

## **Background**

History of Document. ASA leadership, initially through the CME Strategy Committee, the Committee on Patient Safety and Risk Management, and subsequently through the Section on Education and Research, sought to create a web-based directory of existing, accessible, and decentralized simulation training programs to provide ASA members with simulation CME opportunities. A second ASA goal was to develop a network among these centers which would determine and define the most appropriate simulation educational needs of its members. To achieve these goals, the Committee on Outreach Education in December 2004 created the Workgroup on Simulation Education, composed of anesthesiology simulation and education

experts<sup>2</sup>. This document is the result of more than 20 months of voluntary Workgroup deliberations and summarizes its recommendations to the ASA Board of Directors on the most effective ways to accomplish ASA's goals.

Significance. Increasing evidence suggests that simulation education can have a positive impact on patient safety and quality of care. ASA's active participation in simulation-based CME is propitious. Nearly all medical schools now use Simulation routinely and it is rapidly becoming a part of GME programs.

The 2001 Institute of Medicine report, *Crossing the Quality Chasm*, called for a change in medical training to address the problems with quality and safety and recommended using simulations "whenever possible." The Association of American Medical Colleges recommended a "collaborative effort to ensure that the next generation of physicians is adequately prepared to recognize the sources of error in medical practice, to acknowledge their own vulnerability to error, and to engage fully in the process of continuous quality improvement." The Council on Graduate Medical Education advocated the use of simulation in clinical education, and for the evaluation of performance, throughout training and at regular intervals during professional practice. Simulation training is now openly discussed by the NBME and ABMS as an important tool for attaining and assessing clinical competency. Specialty societies have already developed or are considering Simulation Program accreditation processes<sup>3</sup>, while Anesthesiology has traditionally been at the forefront of simulation research and training.

Opinion of ASA Membership. The Workgroup conducted a large-scale poll of ASA members on their views of simulation-based education<sup>4</sup>, and 1,400 members responded. Eighty-two percent were interested in participation in simulation-based CME, whereas only 9% said they were uncomfortable or not interested in this type of learning. Eighty-nine percent said that they would attend if the course was offered in a convenient location. Thus, decentralization seems important to ASA members. While 89% felt simulation would enhance their skills in the management of rare, difficult events, 79% felt it would enhance their skill in crisis resource management. Approximately 280 constructive remarks were considered in designing this

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<sup>2</sup> Members of the Workgroup on Simulation Education are previously listed.

<sup>3</sup> For example, the American College of Surgeons has initiated a process for accrediting multidisciplinary education institutes, some of which include simulation training

<sup>4</sup> Details are found in Appendix 1.

proposal. Another survey is currently in progress to determine members' attitudes on development of standardized curricula and courses

Benefits to ASA Members. The ASA believes that its members will benefit from participating in high-quality simulation-based education programs by providing a learning context for the promotion of patient safety; by helping to improve their clinical and teamwork skills, especially in preventing and managing critical events; and, by maintaining their expertise in specific areas (e.g., difficult airway management). A formal process for reviewing and approving Programs, and the anticipated development of Endorsed Courses, will enhance the likelihood that ASA members receive high quality and consistent experiences across geographic regions.

Benefits to Simulation Programs. Approved Programs will enjoy special, enhanced designation within the ASA Simulation Registry (<http://simulation.asahq.org/search>) as an Approved Program, and may then offer such Courses as an important option for achieving mandatory credit in MOCA Part IV PPAI (Practice Performance Assessment and Improvement). Participants will be eligible to receive the anticipated curriculum of Endorsed Courses. Endorsements and/or advertisements of Approved Programs within the ASA and ABA Newsletters, MOCA communications, State component society and SAAC/AAPD meetings, and the anticipated ASA Simulation Education Website, would be expected to bring recognition and preferential course registrations to such programs. Furthermore, Approved Programs could be invited to participate in ASA-sponsored educational activities, or to further develop national standards for simulation-based activities and ASA-Endorsed courses.

## **Workgroup Proposal**

Committee on Simulation Education. It is ***recommended*** that the ASA form a new Committee on Simulation Education ("Committee") in accordance with the ASA Bylaws. The Committee should be composed of individuals with Simulation expertise, and diversified backgrounds from military, private practice, and government entities, as well as non-physician ASA members who are Simulation educators. The Committee will:

1. Facilitate the use of Simulation CME

2. Oversee the ASA Simulation Registry
3. Develop the Simulation Education Website as an official subset of the ASA Website
4. Establish and revise Criteria and processes for Simulation Program Approval
5. Review and Approve Simulation Programs
6. Conduct an educational needs assessment that will inform the development of Endorsed Courses
7. Provide ASA and its members with evidence-based validation of Simulation education
8. Promote interdisciplinary efforts to improve patient safety

Program Approval Process. The Committee will develop and continuously refine the Criteria that are expected to be based on the elements outlined in the next section. The Workgroup recommends that initial Approvals be based on relatively flexible Criteria, perhaps using a portfolio model. More explicit and detailed Criteria would evolve from a subcommittee on Appeals and Standards, as the Committee examines existing and potential “best-practices”, and reviews evaluations of programs by participants.

Criteria for Program Approval. There are many elements that contribute to making a Program successful and its Courses of high quality. The Approval Process will be based on the accreditation model whereby the Program must document to the satisfaction of the Committee that it meets minimum Criteria. The Criteria will invariably change over time as simulation education improves and evolves. However, at this time, the Workgroup has identified *Criteria* that it believes should form the basis of the Approval Process.

1. *Mission Statement.* The Application should describe the Program’s mission, with particular emphasis on methods of providing cost-effective, value-oriented, convenient, practical, and respectful Simulation Courses.
2. *Educational Offerings.* The Program should describe in detail the Courses offered, and its agreement to provide, when available, a selection of ASA-Endorsed content areas through CME offerings. Furthermore, if the anticipated Endorsed Courses are received by the Program, then such Program must agree to conduct such Courses for ASA members. The description of each Program’s Course should include information about educational

objectives, curriculum, evaluation methods, instructors, logistics, annual capacity<sup>5</sup>, and projected cost. In addition, the Application should describe pertinent history and evaluations of the Program's courses over time.

3. *Curriculum and Scenario Development Process.* The Program should describe any established or standardized curriculum development process that it uses,
4. *Instructor Competency.* The Program should have a process for training, evaluating, and credentialing its Instructors. Although the process for training will vary, the ASA Committee will consider a Program's use of the Guidelines outlined in Appendix 2. In particular, an Instructor's demonstration of constructive and respectful behaviors, scholarship in simulation and medical education principles, and expertise in the assigned Course subject matter will be considered along with evidence of teaching effectiveness. The Application should provide documentation that: 1) at least one Instructor in each Course is a Credentialed Instructor, and 2) at least one Instructor in an ASA-Endorsed Course is a Credentialed Anesthesiology Instructor.
5. *Handling Performance Anxiety.* The Program must state its methods of addressing performance anxiety, as described in Appendix Three, "Handling Performance Anxiety of Simulation Participants." Furthermore, evidence that a confidentiality agreement and a performance anxiety statement are given to participants, is essential.
6. *Program Leadership.* The Program must be administered by a designated Program Director who is responsible for the organization, conduct, and quality of the Program. The Program Director should have an MD or PhD degree (or equivalent) and the qualifications to develop and effect the education of Diplomates of the American Board of Anesthesiology. Courses should be administered by a designated Course Director<sup>6</sup> who is responsible for the conduct and quality of the Course. The Course Directors should be Credentialed Instructors, and their titles and qualifications to direct the Course should be stated in the Program Application and within all Course description advertisements to ASA members. Listings of ABMS Certifications (or International equivalents), whenever present, should be clearly stated.

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<sup>5</sup> For example, the intended number of courses to be offered annually and the number of ASA members who could be accommodated per course.

<sup>6</sup> Where appropriate, the Program Director and Course Director may be the same person.

7. *CME Credits.* A number of Courses within the Program must be approved for AMA-PRA Category-1 CME, under the authority of the ACCME. Note that Program Approval will not obligate the ASA to provide CME credit for a Program's Course.
8. *Assessing Course Effectiveness.* The Program should have a reliable process for the evaluation by trainees of Courses and Instructors. The evaluation process should document the effectiveness of each Course in achieving its stated educational objectives. The Program should have an internal quality assurance process for both Courses and Instructors. The application will document the process for implementing changes in response to unsatisfactory evaluation data
9. *Education Technology.* The Program should have the Educational Technology necessary to effectively conduct its intended Courses. The Application should describe the available Education Technology, how it is used, and how it is maintained and supported.
10. *Infrastructure.* The Program should have an infrastructure sufficient to assure consistent high quality Courses. The infrastructure includes governance, fiscal viability, facilities, personnel, organizational relationships, policies and procedures, and capacity.
  - a. *Governance and Fiscal Issues.* The Program should be organized to maximize the likelihood that Course quality will be maintained for the duration of the Approval. The Program should have standard and auditable processes for managing course income. The Application should provide documentation of the Program's governance and financial model including evidence of stable Program leadership and finances. Principal stakeholders in the Program and its affiliated Center(s) should be listed as well as their proportional usage of the facilities
  - b. *Facilities and Capacity.* The Program should have sufficient facilities and instructional capacity to consistently offer its Courses. The Application should describe the Program's facilities including physical layout and dimensions, available personnel, technical capabilities, and the typical flow of course participants within the facility during a Course. Capacity refers to the affiliated facility's size and current percentage utilization for Courses as well as all other activities. Other issues such as registration and scheduling processes, and Course participant management (e.g., parking, meals) should be addressed

in the Application.

- c. *Policies and Procedures.* The Program should have established written policies and procedures. Policies and procedures should address how courses are to be conducted, mechanisms to ensure quality instruction, maintenance of trainee confidentiality, trainee refunds and cancellations, and remedies in the event of conflicts. Compliance with applicable governmental and other regulations should be documented.

First Steps after Committee Formation. Upon formal approval by the ASA of the Committee and the establishment of its membership, the ASA will consider recommendations by the Committee for appointment of additional non-voting expert adjunct (ASA) and consultant (non-ASA) members as necessary to support the Committee's activities. The Committee will then create, publish, advertise, and distribute its initial application portfolio and process along with a detailed description of the ASA-Approval project. Three months after the distribution of Application materials, and in consideration of an Application fee, the Committee will announce its intent to accept Applications for ASA Approval.

ASA Simulation Registry. The Registry was created a year ago as a resource for ASA members to advertise existing simulation programs for the benefit of ASA members. It will be the intent of the Committee to gradually replace such listings with those of Approved Programs. As the Approval process begins, an emboldened designation of "Applicant" will be given to those programs that have completed the application materials. Approval of Programs will further upgrade the designation to "ASA-Approved Program". No program will be listed as Approved in the Registry until all Applications received within the first 3 months have been acted upon. At such time, the Registry will clearly define the terms, "Applicant" and "ASA-Approved Program". Non-applicants and non-approved Programs could eventually be denied listings on the Registry.

Site Visits. The Workgroup recommends that site visits by expert representatives of the Committee should be part of the Approval process. Site visits are integral to many but not all existing accrediting bodies<sup>7</sup> although they add complexity and appreciable cost to the process.

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<sup>7</sup> Examples of accreditation processes that include site visits include ACGME, LCME, ACCME, JCAHO, and Baldrige.

The Workgroup therefore recommends a phase-in of site visits with two initial visits among randomly selected, but qualified program applicants during the first budget year. Site visits might increase to four targeted ones in the second budget year, and eventually non-random but selective visits to as many programs as necessary. Ideally, adequate funding could allow routine site visits to all program applicants to assure high quality. The process, logistics, and associated costs will be planned and budgeted as outlined in the Business Plan<sup>8</sup>, and such costs will be offset through the Application Fees of all Program applicants. To avoid conflict of interest (see below), it is suggested that site visitors not be part of the Approval decision-making team, but rather accumulate data and communicate with Program Directors to provide information to the Approval team. A separate appeals and standards-review subcommittee should be formed to arbitrate disagreements.

Funding of Committee activities. Refer to the Business Plan for complete details of the proposed funding mechanisms. Predominantly, funding will be secured through Application fees paid by Programs seeking Approval and revenues obtained directly from the ASA.

Maintenance of Program quality and subsequent Approvals. The Committee will consider how best to assure maintenance of Criteria during the period of Approval,<sup>9</sup> and the appropriate duration of Program Approvals. It is expected that Programs would need to apply for re-approval, at a frequency to be determined by the Committee.

Assuring Committee and Approval integrity. The Approval process must be as free as possible of real or potential conflicts of interest. For example, the initial make-up of the ASA Committee on Simulation Education will invariably include individuals who are Directors or Instructors in Programs that seek Approval. If such members were also part of the Approval decision making team, then a conflict of interest would arise, and they must therefore recuse themselves of all material deliberations or decisions regarding their Program. Deliberations of the Committee should be transparent and public whenever possible. Robust Committee audit and oversight mechanisms should be established, as well as a policy on Conflict of Interest.

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<sup>8</sup> Detailed in Appendix 4.

<sup>9</sup> This process could be an Annual or Biannual Self-Evaluation Report submitted to deadline. Committee review of Self-Evaluation Reports that warrant follow-up could generate a request for further information or, in extreme cases, a site visit.

Consultative Services. It is expected that some Programs will seek independent Simulation consultation and may currently or eventually seek ASA Approval. It is further expected that some Committee members may have provided, or currently are consulting, or will be asked to provide such consultation. Such consultation could be viewed as an appropriate promotion of simulation education, *unless* such Committee member was a part of the Approval decision making team. No member of the Approval decision making team may consult with such programs, as this would be considered a direct conflict of interest. The Committee recognizes, however, that Programs which have a Director or Instructor as a member of the Approval decision making team within the Committee on Simulation will have the unavoidable advantage of inherent consultation, which is why such person must recuse themselves of all material deliberations and decision making regarding their program, as stated above. Programs that seek consultation from Committee members must be informed of the Committee's policy on conflict of interest.

## Appendix One

### ASA Member Poll on Simulation CME Results

Over 1,400 ASA members responded to the October 2005 poll, which was designed to assess interest and obstacles to simulation-based CME. The number of respondents was considered outstanding, particularly given the length of the survey. The breadth, size and location of practices represented, are extensive. Whether the group size and geographic locations of the practices are representative of the entire population of ASA members was not assessed. In addition, we are unable to comment on whether individuals who embrace innovative technologies are over represented in the group who responded to the survey. Certainly not everyone that responded, judging by the comments, is pro simulation. Whether the survey respondents are an exact representation of ASA membership may be irrelevant, as the number who responded favorably to simulation-based CME seems sufficient to justify and direct the first wave of simulation courses.

#### Results:

1. The poll results indicate that a strong interest in simulation-based training exists. Seventy-seven percent of those responding feel simulation-based training offers additional benefits compared to lecture-based CME, and 81% of respondents are interested in participating.
2. Respondents favor courses that address management of infrequent, difficult situations (e.g. difficult airway, cardiac arrest, anaphylaxis, MH), followed by airway management and crisis resource management courses.
3. Desired course components include a realistic mannequin, a high instructor-to-student ratio and a formal assessment of performance (over such items as a realistic OR environment, videotaping and multidisciplinary teams).
4. Simulation must be convenient. Although “my own hospital” is favored, a nearby academic center is not far behind and is preferred to a resort location by a small margin.
5. Most would participate in simulation-based CME every 2-3 years, though a number of respondents would participate annually.
6. There is a need to make simulation affordable or more attractive than the suggested cost of \$800-\$1000 for a single day. A hypothetical course registration fee of this magnitude is not appealing unless the CME credit hours are weighted or MOCA credit is offered. These options make the course attractive to almost twice as many individuals.
7. The cost, rather than concern over whether course participants are observed, is the respondents’ perceived primary deterrent to participation.

## Appendix Two

### Guidelines on Instructor Credentialing

Instructor Credentialing. An infrastructure should exist for Instructor Credentialing within a program. The purpose of this appendix is to provide guidance on instructor credentialing to aid Programs in developing and sustaining instructors who will provide quality learning opportunities for ASA members. In the following sections the terms credentialing and credentialed will be used solely to represent credentialing within a Program. Programs are encouraged to use the following guidelines:

- a. Credentialed Instructors should be able to document their teaching of simulation Courses. The experiences may involve anesthesia residents, medical students, faculty physicians, and others. The simulation experiences may involve team management and/or medical management, or they might concentrate on cognitive knowledge and/or procedural skills.
- b. Instructors should be able to document experience with "debriefing" simulation exercises, where applicable. Favorable letters or evaluations from students and fellow instructors who observed or who participated in debriefing exercises with the applicant will be highly valued. It is recommended that a specific question be included in all instructor evaluations, where appropriate, regarding debriefing effectiveness.
- c. Instructors should also be encouraged to document scholarly behaviors and life-long learning. Examples might include presentation at national meetings, participation in workshops, development of peer-reviewed Courses, or publication of topics in Simulation.
- d. Instructors should emphasize their qualifications to teach the expected customer base, which are experienced, practicing anesthesiologists and Diplomates of the American Board of Anesthesiology.
- e. Instructor credentials and documentation should be collected and kept on file by the head of the Program, Instructor credentialing body, or the Program director.

#### Some possible criteria that a Program could use to credential Instructors

- 1) The applicant is a member of the American Society of Anesthesiologists and/or a Diplomate of the American Board of Anesthesiology.
- 2) The applicant has a doctoral degree such as an MD, PhD or EdD or a non-terminal degree in a relevant field with exceptional special knowledge (e.g. a master's in education).
- 3) Instructors requesting Credentialed status must document a portfolio of experiences and activities relevant to the use of simulation for instruction of anesthesiologists. The portfolio method gives applicants broad possibilities to demonstrate different kinds of experience they have acquired supporting their application for credentialing.
- 4) Whenever available, Instructors requesting Credentialed status should document and provide evidence of student learning outcomes, which validate their teaching ability.

## **Appendix Three**

### **Handling Performance Anxiety of Simulation Participants**

Simulation scenarios that pose challenges to clinicians are inherently prone to generate some level of performance anxiety on the part of participants. Even if the goal is explicitly learning and not “testing”, the very aspects of simulation that make it valuable make it potentially anxiety provoking to nearly everyone, and perhaps excessively so to a few. These factors include: the ability to generate tough situations that might not be seen on a routine basis; the ability to capture performance and review it; the ability to have multiple participants – peers or co-workers work together and review the recordings together. Such factors could lead to fear and feelings of incompetence,

Simulation centers and simulation experts have been facing this inherent difficulty for over 15 years - it is not a new phenomenon. While there is no perfect way to completely eliminate anxiety from all participants, experience has shown that a number of procedures and activities can reduce anxiety to a tolerable level, and maximize the learning potential, for the vast majority of participants. Some of these approaches, procedures, and activities include:

- A strong statement of the goals of the simulation activity and a clear focus on constructive learning for all participants.
- A culture of the simulation center, instructors, and curricula that clearly enacts this focus on learning, and that provides a respectful, friendly atmosphere. In many centers an appropriate balance between seriousness and humor has been used successfully to defuse anxiety.
- Explicit discussion of principles and ground-rules for behavior during simulations and in debriefing. These typically emphasize the need for constructive critique, a focus on critiquing the “performance” not the “performer”, and the confidentiality of the simulation sessions and debriefings. Also, one typically reminds participants that nearly every scenario will have elements that were done well and elements that could be improved, and that all participants will show both elements in any given exercise.
- Exercises in which participants practice critiquing the performance of clinicians from recordings of others going through either simulation sessions or real cases. This allows participants to get used to the critiquing activity when they or their co-participants are not the focus of the critique.
- Specific instructions on preserving confidentiality and explicit disclosure of how any recordings of the simulation sessions will be retained or used in the future. An option in some curricula is to erase the recordings after the session is completed.
- Special training and/or instructions for debriefing instructors that emphasize sensitive handling of participants with anxiety or defensiveness to maximize constructive learning.
- Different sorts of participant groupings can be used to deal with anxiety of participants. Some clinicians prefer to undergo simulation with their peers who already know and trust them. The bonds of friendship can help them collectively to overcome anxiety. Some clinicians prefer to undergo simulation with complete strangers so that any perceived poor performance will not be noticed by peers but only by those who will not be seen again. Simulation centers may wish to offer both sorts of curricula so that participants can choose their preferred style of course. Many simulation centers have successfully managed highly-anxious participants.

Many participants to-date have been volunteers who have chosen to undergo simulation training. There has been only limited (but some) experience with mandatory curricula in which participants are not self-selected. We believe that Courses at ASA-Approved Programs are likely to be completely voluntary for the near and medium term, and thus, individuals with a very high level of anxiety need not participate. We expect that favorable peer experience will eventually mitigate such anxieties, but some may choose to never participate. When, if ever, simulation training becomes mandatory, special programs may be needed to help those with high anxiety. As such requirements are not likely to occur in the near term, we believe that there will be sufficient time to further develop special techniques of allaying anxiety.

. Thus, each Program must have processes and curricular elements that are designed to mitigate and handle performance anxiety of participants. Anxiety is a natural part of creating challenging, affective learning experiences, and affective learning is very powerful.

## **Appendix Four**

### **The Business Plan**

#### **1.1 Objectives**

The Objectives of the Business Plan are to:

- 1) advertise simulation education opportunities
- 2) create an official ASA Committee on Simulation Education.
- 2) create an ASA Approval process for quality simulation programs

#### **1.2 Mission**

The Mission of the Business Plan is for the ASA to define, identify, and promote quality simulation education opportunities for continuing education for its membership.

#### **1.3 Keys to Success**

There are several keys to success for this program. They are:

- 1) Achievement of the ASA's recognition, endorsement, support, and validation of the program.
- 2) Provision of perceived and real educational value to the membership in otherwise expensive simulation CME
- 3) Heightened awareness of ASA membership's desire for options in private, self-learning simulation experiences.
- 4) Provision of low-threat learning environments to protect ego-sensitivity in group performance with videotaping.
- 5) Promotion of validation of the learning scenarios and methods.
- 6) Provision of qualified instructors with special expertise.
- 7) Promotion of realism in education technology.
- 8) Provision of value to Simulation Programs in submitting to the Approval process

#### **2.0 Chair's Executive Summary**

The function of the Workgroup is drawing to closure with a critical mass of consensus opinion. The ASA should pursue the establishment of a new Committee on Simulation Education which would require the appointment of a leader, membership, and adjunct members. Members of our workgroup should make recommendations for membership at ASA's request, and members should also inform the ASA if they are interested in being selected. The committee must have diverse representation from academic, private, government, military, and non-physician membership of the ASA, and it must appoint a number of adjunct and advisory members to accomplish the intended tasks. The committee would immediately refine its objectives to further:

- 1) enhance and maintain the Simulation Registry
- 2) enhance the beginnings of a dedicated website for simulation education
- 3) ensure the publication of the member survey results
- 4) refine the criteria for approval of simulation programs

- 5) suggest criteria for a program-specific instructor credentialing process
- 6) produce an application package
- 7) publish, advertise, and distribute statements of intent, requirements, and costs for program application to the approval process
- 8) receive, review, and approve program applications
- 9) determine, describe, and inform potential applicants of any pre-determined number of random site visits for 2007 and beyond
- 10) create a sub-group on standards review, appeal, and oversight which could define appropriate triggers and times for program re-assessment after approval.
- 11) establish interdisciplinary working groups to develop standardized scenarios and objectives. These should be available to Approved programs, since they have voluntarily demonstrated their capability, commitment, and desire to adhere to ASA standards in the conduct of simulation CME to ASA members, thus making these scenarios and objectives a major advantage of ASA-approval.
- 12) establish a multidisciplinary working group on validation, to suggest means by which a scientific appraisal of simulation education might be structured
- 13) identify formative and consultative mechanisms, separate from the approval process, to foster growth and development of new simulation programs.

Programs must be assured of the ASA's intent to promote quality, non-threatening, and structured education in Simulation. The ASA must encourage solutions to the membership's leading issues of value, cost, validity, practicality, convenience, and respectfulness. We must re-adjust the common illusion of high-tech, full-scale simulators, (when referring to simulation education) and think proactively about PC-based, or internet-capable simulations, and specifically seek programs that can deliver effective simulation on-the-road, with portable and reliable technologies that can reach the underserved members of our society.

In summary, there is much to accomplish, but the mandate is clear. If promoted and developed with deliberation, patience, and well-delineated intentions, we believe that demand will grow progressively and in synchrony with supply. At this time, we do not have the capacity nor infrastructure to serve the entire membership.

Finally, as the current Workgroup has been deliberating for two years, a new and refreshing volunteer base will be essential to keep up the momentum, to eliminate bias, and to prevent overload of the founding members.

## 2.1 Start-up Summary

This White Paper outlines the necessary details for immediate initiation of the Approval process. With formation of the official Committee, the following actions should be undertaken to ensure successful start-up:

- Recommendations to ASA leadership for adjunct membership
- Review and partitioning of responsibilities outlined in the White Paper, including:
  - Subgroup for the Registry
  - Subgroup for the Simulation Education Website
  - Subgroup for administrative processes and production of applications

- Subgroup for Program Approval decision making
- Subgroup for site visits
- Subgroup for Interdisciplinary relations
- Subgroup for standardized scenario development
- Development of the Website
- Preparation of application materials
- Advertisements and distributions to Simulation Programs and ASA membership
- Receipt and review of applications

### **3.0 Products**

There are two main products of the ASA Committee on Simulation Education. These are the advertisement of Simulation education opportunities through the ASA Simulation Registry and the Approval of Programs that meet the standards of ASA for provision of quality education in Simulation. Envisioned products may include the recommendation of standardized simulation education content for Approved Programs and eventual production of standardized Simulation Courses, objectives, and evaluation mechanisms.

### **4.0 Market Analysis Summary**

Based upon the 89% of 1,400 respondents to the ASA Member Poll on Simulation Education who said they would attend a simulation course, we could expect approximately 1,250 members to attend at some point in the near future. With approximately 20 Programs that are known to be seeking ASA Approval, it is possible that individual Programs could average 60 registrants in the immediate future, if the registrants were to preferentially choose Approved Programs. As one of the benefits of the expense of ASA Approval is to increase client training, then it appears that the theoretical ROI does exist.

#### **4.1 Market Segmentation**

The Market is segmented by geographical location and by type of ABA certification. Geographically, members said they wanted to attend a Program that was either within their own hospital, or very close to home. Mobile simulation programs may offer value to rural hospitals. Programs in urban areas are likely to see enhanced numbers of registrants. ABA certification beyond the year 2000 carries a requirement for MOCA®, and one mechanism of achieving Part IV PPAI will be in simulation. If recent graduates, averaging 720, but increasing to 1,200 per year since Y-2000, are interested in obtaining Simulation CME before 2010 (to maintain certification), then Programs could begin to see a swell of interest over the next 3 years. Thus, if new ABA Diplomates participated in simulation CME only once in 10 years at an Approved Program, then this could mean (1200 per year / 25 Approved Programs) 48 participants per year, per program, on average, if 25 Programs were Approved.

#### **4.2 Target Market Segment Strategy**

The ASA intends to advertise the Simulation CME opportunities along with other popular CME activities such as the SEE and ACE Programs. Advertisements and bulletins will be placed in

the ASA Newsletter, mass e-mailings, CME brochures, the ABA Newsletter, and the newly developing Simulation Education subsection of the ASA Website. The ABA of its own accord, may express interest in this ASA project, and may independently inform its Diplomates of this opportunity.

### **4.3 Industry Analysis**

Hard data on the financial summaries of existing simulation programs do not exist. The best efforts of this Workgroup have identified only 25 listings of Programs in the ASA Simulation Registry that presumably offer CME Courses for practicing anesthesiologists. We presume that collegial and professional competition will encourage these Programs to seek ASA Approval, if indeed they are interested in attracting clients for their CME programs. Alternatively, some of those Programs have enjoyed exemplary reputations of their own, and it may be argued that they would not need ASA Approval, nor find value in submitting to the rigors and expense of Approval. Alternatively, to maintain such reputations, it may be incumbent upon these Programs to seek the first wave of Approvals. It is not generally known how profitable existing CME Programs are, nor how much of their budget is underwritten by grants, endowments, institutional support, or sometimes massive charitable gifts. As we expect Simulation utilization to increase, growing numbers of Programs will seek ASA Approval.

#### **4.3.1 Competition and Buying Patterns**

Competitive forces from other subspecialty accreditations, like the ACS, could limit the ability of some programs to seek alternative credentials. Competition from PC-based simulation CME programs could limit the number of participants in Approved Programs that predominantly conduct expensive, full-scale simulation.

### **5.0 Strategy and Implementation Summary**

Refer to 2.1 Startup Summary.

#### **5.1 Competitive Edge**

The premise of the ASA Approval of Simulation Programs is that such designation will increase the likelihood that such Programs will deliver the highest quality and highest value simulation educational experiences for the ASA member. If such Programs are in the business of attracting clients and providing CME Courses for anesthesiologists, then Approval will provide a competitive edge.

#### **5.2 Marketing Strategy**

Endorsements and/or advertisements of Approved Programs within the ASA and ABA Newsletters, MOCA communications, State component society and SAAC/AAPD meetings, and the anticipated ASA Simulation Education Website, would be expected to bring recognition and preferential course registrations to such programs. Furthermore, Approved Programs could be invited to participate in ASA-sponsored educational activities, or to further develop national

standards for simulation-based activities and ASA-Endorsed courses, all of which would enhance the Programs' marketing effectiveness. Special designation of "ASA-Approved" will be provided in the ASA Simulation Registry, and will eventually be required for listing within the Registry. Individual Programs are expected to conduct their own marketing programs, and many already have their own websites developed.

### 5.3 Sales Strategy

Sales of Simulation CME products will occur at the local Program, and will not be conducted nor managed by the ASA. However, the ASA has its own vested interest in promoting Simulation CME as a service to its membership; while financially supporting the mission of the Committee on Simulation Education, it will seek to recoup its expenses through Approval fees and not through CME receipts.

#### 5.3.1 Sales Forecast

Year One and Two suggestions for initial Approval applications (n = 18) could include:

Boston (x2), Rochester, Cleveland, Seattle, Oregon, Los Angeles, Palo Alto, West Virginia, Louisville, New Mexico, Miami, Pittsburgh, South Carolina, Hershey, Durham, Nashville, Gainesville, in addition to many others.

Year Three targets for initial Approval application (n = 10) arise from the remaining list of Programs, and other developing Programs known to this Committee.

### 5.4 Milestones

Oct-02	Initial Full Scale Simulation Education Workshop at ASA <i>ASA Annual Meeting, Orlando, Florida</i>
Sep-03	Concept of simulation education discussed within ASA CME Strategy Committee
Jan-04	Workshop on Feasibility of Offering a Regional Standardized Simulation Curriculum <i>4th Annual Meeting on Medical Simulation</i>
Jan-04	Survey report from the IMMS Workshop to the ASA Section on Education and Research
Apr-04	Request from Dr. Patricia Kapur, Chair of the ASA Section on Education and Research, to organize a standardized simulation curriculum for ASA members.
22-Aug-04	ASA Board of Directors approves Dr. Kapur's recommendation to form the Workgroup
Oct-04	ASA House of Delegates approves Board Action to officially create the Workgroup. Committee on Outreach Education considers specific goals of the Workgroup <i>2004 ASA Annual Meeting in Las Vegas</i>
Nov-04	Dr. Warner, as Chair of the Section on Education and Research, outlines the specific charge of the Workgroup, to the Committee on Outreach Education.
Nov-04	Dr. Olympio invited to chair the Workgroup on Simulation Education

ASA Approval of Simulation Programs

Submitted to the ASA Committee on Outreach Education July 18, 2006, for ASA BOD ACTION

- Nov-04 Committee on Outreach Education and Committee on Patient Safety and Risk Management assemble the list of Workgroup members
- Dec-04 Chair of Workgroup outlines the "Phase I Objectives" and contacts Workgroup members
- Jan-05 First meeting of the Workgroup, which was originally called the Ad Hoc Committee on Standardized National Simulator Training  
*5th International Meeting on Medical Simulation, Miami, Florida*
- 11-Mar-05 Workgroup members assigned to eight different goal-oriented teams.
- 5-Jun-05 Progress report from the Workgroup to the Committee on Outreach Education
- 16-Jul-05 Progress report sent to the ASA Board of Directors' August meeting
- 25-Aug-06 Letter (e-mailed) to simulation program directors re: ASA Survey of Simulation Centers
- Sep-05 Publication: Olympio, MA and Cole DJ. "Innovation and the Future in Continuing Medical Education"  
*ASA Newsletter, September 2005*
- 7-Sep-05 Workgroup enlists the aid of Dr. Ellen Bateman, educationalist from ASA.
- 22-Sep-05 Letter (e-mailed) to simulation program directors announcing postponement of original date for SimSaturday, from October 29 to March 11, 2006 secondary to Hurricane Katrina
- 26-Sep-06 The ASA Simulation Registry is posted, originally in the Member's Only section  
*ASA website posting now at <http://simulation.asahq.org/search/>*
- 10-Oct-05 Letter (e-mailed) to ASA Members re: ASA Member Poll on Simulation CME  
1400 respondents describe their vision for simulation CME
- 13-Oct-05 Letter (e-mailed) to simulation directors and vendors inviting them to list their simulation entity on the Simulation Registry
- 4-Nov-05 Letter (e-mailed) to simulation directors to remind them of the Registry and SimSaturday
- 17-Nov-05 Workgroup learns of American College of Surgeons' Accreditation of Education Institutes
- 19-Dec-05 Workgroup analyzes results of the ASA Member Poll on Simulation CME
- Jan-06 Publication: Ruskin KJ. "Simulation Saturday on March 11 to Introduce a New ASA-Sponsored Educational Opportunity"  
*ASA Newsletter, January 2006*
- 9-Jan-06 "ASA's Simulation White Paper: Your comments are invited"  
White paper describes the Workgroup's proposal for ASA to "approve" programs.

Over 230 constructive opinions are incorporated into the Workgroup's White Paper  
*ASA website posting [www.asahq.org](http://www.asahq.org)*

- Jan-06 Publication: Olympio, MA and the Workgroup on Simulation Education. "Progress on the Development of a ASA-Sponsored National Anesthesiology Simulation CME Program"  
Poster Advertisements: "Join the ASA Simulation Registry", "ASA Wants You, to Complete the Member's Simulation Survey", "Simulation Saturday, March 11, 2006"  
*6th International Meeting on Medical Simulation, San Diego, California*
- 22-Feb-06 Workgroup considers the first draft of a proposed budget for the ASA project
- 3-Mar-06 Workgroup presentation to the ASA Administrative Council and the Scientific Council  
*ASA Board Meeting, Chicago Westin O'Hare*
- 11-Mar-06 Simulation Saturday Event  
*Locations across the United States*
- 30-Mar-06 Results of the ASA Member Survey on Simulation  
*ASA website posting: <http://www.asahq.org/news/MemberPollSimulationStats111605.pdf>*
- 30-Mar-06 Workgroup speaks with Dr. Davis from AAFP regarding enhanced CME-credits  
Workgroup considers new metrics for CME credit and identifies key contacts
- May-06 Publication: Otto CW. "Simulator-Based Education: The Future of CME"  
Publication: Taekman JM. "Simulation: It's for Real"  
Publication: Olympio MA. "White Paper on Simulation: ASA Proposes Approval of Anesthesiology Simulation Programs"  
Publication: Cottrell JE. "A Role for Simulators: The 'E' in FAER"  
*ASA Newsletter, May 2006*
- May-06 Workgroup members attend the Association for Advanced Initiatives in Medical Simulation  
Walter Reed Army Hospital and Dirksen Senate Building, Washington, DC
- 16-May-06 Members provide teleconference update to the ABA-CCPDA
- 18-May-06 Chair outlines consensus opinions and executive summary in preparation for BOD report
- 2-Jun-06 Workgroup begins construction of the dedicated ASA Simulation Website
- 5-Jun-06 Workgroup finalizes draft member poll on standardized "ASA-sanctioned" courses  
Workgroup finalizes draft senior resident poll on simulation CME exposure and interest
- Jun-06 Committee on Outreach Education reports to the Committee on Professional Education Oversight
- 3-Jul-06 Committee presents the completed White Paper and Business Plan to the Committee on Outreach Education
- 30-Sep-06 Chair presents ASA Simulation Project to the North Carolina Society of Anesthesiologists

14-Oct-06 ASA Simulation Expo teleconference from Boston's Center for Medical Simulation  
ASA 2006 Annual Meeting, Chicago, Illinois

8-Dec-06 Chair presents the ASA Project to the New York State Society of Anesthesiologists

## 6.0 Interactive Plan Summary

As many meetings as possible will be held in a virtual environment, using Microsoft Live Office. Submission of applications will be electronic and distribution will be electronic.

## 7.0 Management Summary

The management of the ASA Committee on Simulation Education would come from the ASA staff, purchased at the going rate.

## 8.0 Financial Plan

To set the Approval application, maintenance and re-Approval fees at such level as to provide adequate reimbursement for, actual coverage of, or profit to ASA for its expense in conducting the business of the Simulation Education Committee.

### 8.1 Important Assumptions

- 1) Assume two site visits for the first year (i.e. ASA FY Oct06-Oct07)
- 2) Assume four site visits for the second year.
- 3) Assume one person making a one-day site visit, with one-night lodging, coach airfare, standard ASA reimbursement policy of per diems for the number of meeting days plus one (for a total of two days) (these are all averages for each applicant, and not specific for each site)
- 4) Assume one annual two-day meeting of the official Committee (limited to 6 members, as the rest of the task force are adjunct members) in the first year.
- 5) Assume the ASA will NOT be awarding CME in the first three years, and will not be receiving any CME funds.
- 6) Assume a three-year approval initially, until Program standards are well characterized. The Workgroup suggested a prolonged approval of four-years for those programs that are randomly selected for site visits.
- 7) Assume no program is site-visited unless they first qualify on the written application, thus decreasing the likelihood "un-Approved" status after site-visits.

- 8) Assume an annual maintenance fee after Approval of \$500/year in years two and three (and four).
- 9) Assume, as a benefit to Approved centers, that they would receive options to obtain any anticipated production of standardized scenarios.
- 10) Assume a \$2,500 application fee for the initial budget, knowing that it would cover the costs of the two budgeted site visits, in addition to other Committee expenses.

## 8.2 Break-even Analysis

The analysis shows that breakeven will occur in year three, with the ASA making a \$112 profit.

<b>Expected Utilization</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
New Endorsement Approved Sites	9	9	10
Existing Endorsement Approved Sites	0	9	18

  

<b>Income</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Simulation Program Breakdown of Initial Approval Fee</b>			
Site Visit Fee (\$1350 per site)	\$12,150	\$12,150	\$13,500
Travel (initial \$400)	\$3,600	\$3,600	\$4,000
Per Diem (\$500)	\$4,500	\$4,500	\$5,000
Hotel (initial \$200)	\$1,800	\$1,800	\$2,000
Other (initial \$50)	\$450	\$450	\$500
Simulation Site Credentialing Maintenance Fee (\$500 per year)	\$0	\$4,500	\$9,000
Miscellaneous (gifts, sponsorships, etc)	\$100	\$300	\$500
Subtotal	\$22,600	\$27,300	\$34,500

  

<b>Expenses</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
ASA Clerical Support	\$6,000	\$6,300	\$6,615
Accounting	\$2,000	\$2,100	\$2,205
Audit	\$1,000	\$1,050	\$1,103
Committee Meetings (virtual)	\$1,500	\$1,575	\$1,654
Committee Meetings (actual) (6 persons per year)	\$6,900	\$7,245	\$7,607
Mail	\$1,000	\$1,050	\$1,103
Printing	\$1,000	\$1,050	\$1,103
<b>Simulation Site Initial Credentialing Expenses</b>			
Travel (initial \$400)	\$800	\$1,600	\$2,400
Per Diem (\$500)	\$1,000	\$2,000	\$3,000
Hotel (initial \$200)	\$400	\$800	\$1,200
Other (initial \$50)	\$100	\$200	\$300
SubTotal	\$21,700	\$24,970	\$28,290

  

<b>Total Profit to ASA</b>	<b>\$900</b>	<b>\$2,330</b>	<b>\$6,210</b>
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