Cost issues and questions related to graduate nurse anesthesia education are raised from the perspective of a dean of a college of nursing. Suggestions relative to these issues are made, and various funding mechanisms that exist in institutions of higher learning are briefly discussed in relation to their cost and benefits.

The AANA goal of moving education for nurse anesthetists from largely hospital-based certification programs to university-based graduate level programs inevitably creates shifts in the sources of financial support and financing mechanisms for such programs.

In an historical context, the movement is similar in many respects to that which has taken place in nursing education generally, as it has moved from a preponderance of hospital-based diploma programs to college and university-based programs.

Despite dire predictions, during this same period the number of new graduates produced annually has doubled. The academic credentials of faculty in nursing have also increased dramatically during this period, with doctorally prepared faculty reaching almost 40% of those in baccalaureate and higher degree programs in 1988.

These same changes can be expected to occur in nurse anesthesia education over the coming years as university-based programs enroll more students than the programs they replaced and as anesthesia nursing faculty achieve the academic credentials required for graduate faculty status. Both of these factors will impact on program costs in the future, because larger programs are generally more cost-effective, and doctorally prepared faculty command higher salaries.

Any institution of higher education that is anticipating the establishment of a new master's degree specialization in anesthesia nursing must recognize that such a specialization is more costly than other graduate clinical nursing specializations. Factors that contribute to this higher cost include (1) the salaries required for faculty; (2) the requirement that there be a separate program director; (3) the addition of another external accrediting body, with the resultant membership, meeting attendance and accreditation costs; (4) the need for a clinical faculty/student ratio of no more than one faculty member for every two students and for each clinical setting to have an educational coordinator; (5) the limits on the number of students who can be placed in any given clinical setting and (6) a program of study that is considerably longer than other master's degree programs and requires full-time study for students.

With regard to faculty salaries, the average base salary for CRNAs who may have completed a minimum of an associate degree program in nursing and a non-degree program in anesthesia nursing is currently reported as $50,513, and opportunity exists for greater compensation depending upon hospital policies on such things as on-call salary and profit sharing.

The average salary for a doctorally prepared faculty member in baccalaureate and higher degree programs in nursing ranges from $33,726 for an assistant professor to $47,181 for a full professor, and for faculty with the master's degree as their highest credential, the range is from $25,617 for an instructor to $44,488 for a full professor.

While one can argue that nursing salaries in the practice setting are now generally outpacing nursing sala-
ries in the academic setting, the gap is considerably wider in anesthesia nursing.

At the University of North Dakota, a search was begun for a faculty member to develop the anesthesia nursing program. The university sought an individual who met the relatively minimal requirements for associate graduate faculty status of a doctoral degree and at least one graduate level degree in nursing. It quickly learned that only a few such individuals existed in the country, so ultimately a highly capable individual who met the requirements for appointment at the instructor level was selected. Yet the salary requirement exceeded that of associate professors who held doctoral degrees, and the discrepancy was further compounded by the fact that a calendar year appointment was required for the anesthesia nursing director, rather than the normal academic year appointment.

The position of program director is something of an anomaly in academic settings that generally have an organizational structure consisting of a dean, associate dean(s) and department chairs. Often, departments encompass more than one graduate-level clinical specialization as well as those undergraduate offerings that are congruent with the departmental focus. In an adult health nursing department, for example, faculty expertise might encompass various medical-surgical nursing specialties, intensive care nursing, gerontological nursing and anesthesia nursing. Why then does only the latter specialization require a program director?

Furthermore, department chair and faculty contracts are normally academic year appointments, with additional part-time summer salaries available for specific teaching assignments, if necessary.

There is an expectation that over the summer faculty will be engaged in research and scholarly endeavors and preparing the coming year's teaching assignments. But faculty often also use this time to maintain and update their practice skills. Why then does anesthesia nursing require a full-time calendar year appointment?

In our setting, coursework in anesthesia nursing consists almost entirely of clinical practice during the summer months. If any other clinical nursing specialization were involved, a part-time summer faculty appointment would be made.

In nursing, an external accreditation process is available through the National League for Nursing (NLN) that reviews both the bachelor's and master's degree programs. At the master's degree level, all clinical nursing specializations (including anesthesia nursing) are reviewed.

If the clinical specialty of anesthesia nursing is offered, however, an additional accreditation under the auspices of AANA is required, necessitating costs associated with organizational membership, attendance at national meetings, preparation of extensive self-study reports and accreditation review site visits.

Might not cost savings be accomplished by working together with the NLN Council of Baccalaureate and Higher Degree Programs to develop general academic standards (organization, administration and governance, policies, resources and faculty) that are congruent and adopt common review time lines?

Such an arrangement would allow for the preparation of one self-study report, with a supplement specific to anesthesia nursing. Furthermore, joint site visits might require only one member to represent anesthesia nursing.

In any event, the requirement for accreditation reviews prior to program initiation and graduation of the first class and a 4-year maximum review period, with an interim report every two years, needs examination. Cooperative planning for meetings of the AANA Assembly of School Faculty and the NLN Council of Baccalaureate and Higher Degree Programs to be held at the same sites and times might bring about some cost savings for the institutions but, more importantly, it would encourage more interchange and jointly sponsored program meetings and social events.

The needs for a clinical faculty student ratio of no more than 1:2 and for a clinical coordinator at each clinical site are not questioned. When nursing education shifted from hospital-based diploma programs to college and university based programs, the teaching responsibility shifted to faculty employed by the institutions of higher education.

While much of the rationale for this shift probably related more to the perceived need for autonomy and clear authority on the part of colleges and universities, in baccalaureate and higher degree programs, at least, there also were too few practicing nurses prepared at or above the educational level of the students to develop a full collaborative relationship for the education of future practitioners. This concern exists today for graduate-level anesthesia nursing education.

Collaborative effort and support between practice and education settings for the training of future practitioners have long existed in such fields as medicine, medical technology and physical therapy. Today, we are seeing a return to this concept in the education of nurses, prompted in part by the greater numbers of nurses with bachelor's and master's degrees, but more critically by the financial constraints being experienced in nursing education. Partnerships between business/industry and education are becoming more common in many disciplines and, increasingly, joint appointments are made that involve both teaching and practice responsibilities and the use of clinical preceptors in the education of students.

Nurse anesthesia education has a long tradition of partnership in the education of its future practitioners and, from a cost viewpoint, it is essential that this partnership be maintained.

The low faculty/student ratio and limitations on the number of students who can be accommodated in any
given clinical setting, at least in a non-metropolitan area, are clearly beyond the means of higher education to fund. Clear cost and cost benefits to the clinical settings are not available, and the AANA should consider conducting a national study similar to the one recently carried out by the American Association of Colleges of Nursing.

If studies currently in progress by the federal government relative to the cost of graduate nursing education to clinical agencies result in the availability of Medicare pass-through monies specific to graduate nursing education, it will be particularly critical to graduate anesthesia nursing education.

During this period of evolution in graduate preparation for nurse anesthetists, it must be accepted that CRNAs with prior preparation have much to offer to students. Faculty in graduate education programs must develop other means to ensure and demonstrate to accrediting bodies that students are learning to practice at a level appropriate to graduate education.

Costs to the students are also a consideration. At a time when two-person incomes have become the norm for families, we are finding that the vast majority of graduate students continue to work full time while engaging in part-time academic study.

Yet for students in anesthesia nursing, the demands and time commitments of the educational program make this more difficult. The traineeships that are available in the second year of study are helpful, and students are eligible for general scholarships and loans available to graduate students, but neither of these sources of financial aid approaches the loss of a full-time income.

While employing agencies frequently provide tuition assistance to their full-time employees, more opportunities for leaves of absence, combined with financial support, need to become available. With the potential earning power of nurse anesthetists, expansion of the educational loan fund supported by the membership of AANA should be considered.

The cost and cost benefits to the particular department or college offering an anesthesia nursing program are heavily dependent upon the funding mechanisms that exist and vary widely across institutions. Private institutions of higher education generally have more flexibility but, increasingly, individual departments or colleges are expected to generate income equal to their costs without subsidies from general institutional income. These institutions have a greater potential than do public institutions to set differential tuition rates that directly support the educational program, but they must be cognizant of the limits that students can afford.

Many states use funding formulas based on general undergraduate or graduate student numbers and costs, rather than on specific program student numbers and costs. Furthermore, the internal institutional budget allocation policies and practices may or may not be based on the state formulas. Therefore, while increasing numbers of students may be more cost-effective, it may not result in budget increases. Tuition income generated by an institution generally becomes part of the state's general income funds, and appropriations are dependent upon legislative decisions and the current financial health of the state.

Nursing education, with its highly labor intensive teaching practices, has always meant comparatively high cost programs. As the number of faculty holding doctoral degrees who command higher salaries grows and as research and publication expectations of faculty increase, teaching practices are under greater scrutiny. The collaborative service/education partnership that exists in many anesthesia nursing programs offers a possible model for other areas of nursing education.

Does a graduate program in anesthesia nursing offer benefits? The advantages to society seem to be clear, particularly in rural states where a high percentage of anesthesia services are provided by nurse anesthetists. Furthermore, provision of anesthesia services by nurse anesthetists is a comparatively cost-effective means of meeting the need.

Without denigrating the excellent level of service that has been provided, it is clear that the product of graduate-level programs will be a new and improved practitioner. With new program developments under consideration, state affiliates of the AANA could be effective political forces in achieving designated legislative appropriations for nurse anesthesia education.

Does a graduate program in anesthesia nursing offer benefits to an educational entity? From a cost standpoint, probably not. However, in North Dakota, there are other benefits. In particular, students in anesthesia nursing are a highly capable and motivated group that contributes to a higher level of education within the entire graduate program.

Through their graduate theses, nurse anesthetists have conducted some excellent research. The addition of a nurse anesthetist faculty member brings new ideas and different perspectives, thereby contributing to diversity of thinking among the faculty. Benefits also accrue to the field of anesthesia nursing, as students and faculty from other clinical specializations discover that nurse anesthetists do indeed practice nursing.

REFERENCES
3. CRNAs' salaries led the field averaging $50,000 this year. 1989. Am J Nursing 89:1676.
1992 SEMINARS & WORKSHOPS
NORTHWEST ANESTHESIA SEMINARS
Paul Hilliard, CRNA, Director

JAN 24-2FEB 1, Innsbruck, Austria
Ski Seminar
"CONTEMPORARY ANESTHESIA PRACTICE"

JAN 26-FEB 1, Jamaica
* "JAMAICA RAP"

JAN 25-FEB 1, Hawaiian Cruise
* "HAWAII RAP"

FEB 19-23, Park City, UT - Ski Seminar
"ANESTHESIOLOGY '92"

FEB 29-MAR 4, New Orleans, LA
Mardi Gras
"DECISIONS IN ANESTHESIOLOGY"

MAR 14-15, Altamonte Springs, FL
"OPHTHALMIC BLOCK WORKSHOP"

MAR 14-17, Orlando, FL
"ANESTHESIA SPECTRUM"

MAR 15-21, Jamaica
* "JAMAICA RAP - OB"

MAR 21-28, Hawaiian Cruise
Cruise & Dive
* "HAWAII RAP"

APR 10-17, Las Vegas, NV
"CLINICAL UPDATE"
"EPIDURAL WORKSHOP"
"ANESTHESIA MANAGEMENT"
"EKG DYSRHYTHMIA WORKSHOP"
"ACLS"

MAY 17-23, Jamaica
* "JAMAICA RAP"

MAY 28-31, Pittsburgh, PA
"TRAUMA & EMERGENCY ANESTHESIA"

JUN 13-14, Altamonte Springs, FL
"OPHTHALMIC BLOCK WORKSHOP"

JUN 14-20, Cancun, Mexico
"OB ANESTHESIA IN THE 90's"

JUN 21-27, Cozumel, Mexico
3rd Annual Dive Seminar
"CLINICAL UPDATE IN ANESTHESIA"

JUL 19-26, Myrtle Beach, SC
"DECISIONS IN ANESTHESIOLOGY +
ADvanced CARDIAC LIFE SUPPORT"

JUL 26-AUG 1, Jamaica
* "JAMAICA RAP"

AUG 15-18, San Francisco, CA
"ANESTHESIA SPECTRUM"

AUG 22-29, Hawaiian Cruise
* "HAWAII RAP"

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SEP 12-15, Lake Delavan, WI
"ANESTHESIA MANAGEMENT"

SEP 19-20, Altamonte Springs, FL
"OPHTHALMIC BLOCK WORKSHOP"

SEP 20-26, Jamaica
* "JAMAICA RAP"

OCT 1-4, Las Vegas, NV
"PHARMACOLOGY UPDATE"

OCT 19-22, Gatlinburg, TN
"TRAUMA & EMERGENCY ANESTHESIA"

NOV 8-14, Jamaica
* "JAMAICA RAP"

NOV 14-15, Altamonte Springs, FL
"OPHTHALMIC BLOCK WORKSHOP"

NOV 18-22, Key West, FL
"CLINICAL UPDATE IN ANESTHESIA"

NOV 28-Dec. 5, Hawaiian Cruise
* "HAWAII RAP"

DEC 12-19, St. Thomas, Virgin Islands
"CONTEMPORARY ANESTHESIA"

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