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Editorials

A silver anniversary for the Society of Critical Care Medicine—Visions of the past and future: The presidential address from the 24th Educational and Scientific Symposium of the Society of Critical Care Medicine

I suspect that all of us are seriously influenced by our patients. I was attracted to the field of critical care medicine by such a patient experience. During my early training at Massachusetts General Hospital in Boston, I admitted and cared for a 51-year-old woman with tetanus, cardiovascular instability, and respiratory failure. I was fortunate to work with a multidisciplinary group of internists (cardiologists, pulmonologists, and infectious disease specialists), anesthesiologists, surgeons, and intensive care unit (ICU) nurses. I was impressed by how the quality of this patient's care was increased by the specific talents of each of these professionals. When I learned of the Society of Critical Care Medicine (SCCM), I was convinced that this organization's emphasis on multidisciplinary critical care was correct.

In 1970, 28 physicians gathered to form the Society of Critical Care Medicine. They envisioned critical care medicine as a distinct clinical and scientific discipline, one deserving of its own clinical practice methodology, training programs, educational forums, and scientific studies. During the past 25 years, much of this vision has been realized and is manifest in the program of the 24th Annual Educational and Scientific Symposium, as well as in the pages of our journal, *Critical Care Medicine*. Our membership has grown impressively during the past 25 years, with very large increases since 1988 (Fig. 1). This growth is, in great part, due to SCCM's vision and accomplishments. However, many challenges also face our field. Our 25th anniversary year, as symbolized by the SCCM anniversary logo shown on the front cover of this issue of *Critical Care Medicine*, provides an opportunity to reflect on our past progress and future challenges.

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SCCM's goal is to assure that the highest quality care is provided to the critically ill patient. To quote from the recently formulated vision statement: "SCCM envisions a health system in which all critically ill and injured patients who choose to receive care and for whom that care is appropriate will obtain care which maximizes the likelihood of desired outcomes for individuals and society, is consistent with emerging knowledge, and occurs in a humane and respectful manner" (1). This statement carefully highlights the major elements of SCCM's efforts during the past 25 years: patient care, education, research, and advocacy. With these goals in mind, we've made substantial accomplishments and look forward to the important challenges ahead.

In patient care, SCCM has championed a multidisciplinary approach to the care of critically ill and injured patients. We believe that an ICU-based team of qualified doctors, nurses, and allied health professionals provides the highest quality critical care and achieves the best outcomes. A qualified critical care physician, possessing the appropriate knowledge, skill, judgment, attitude, and compassion acquired through training, experience, and a focus on this field should be physically available for patient care without competing

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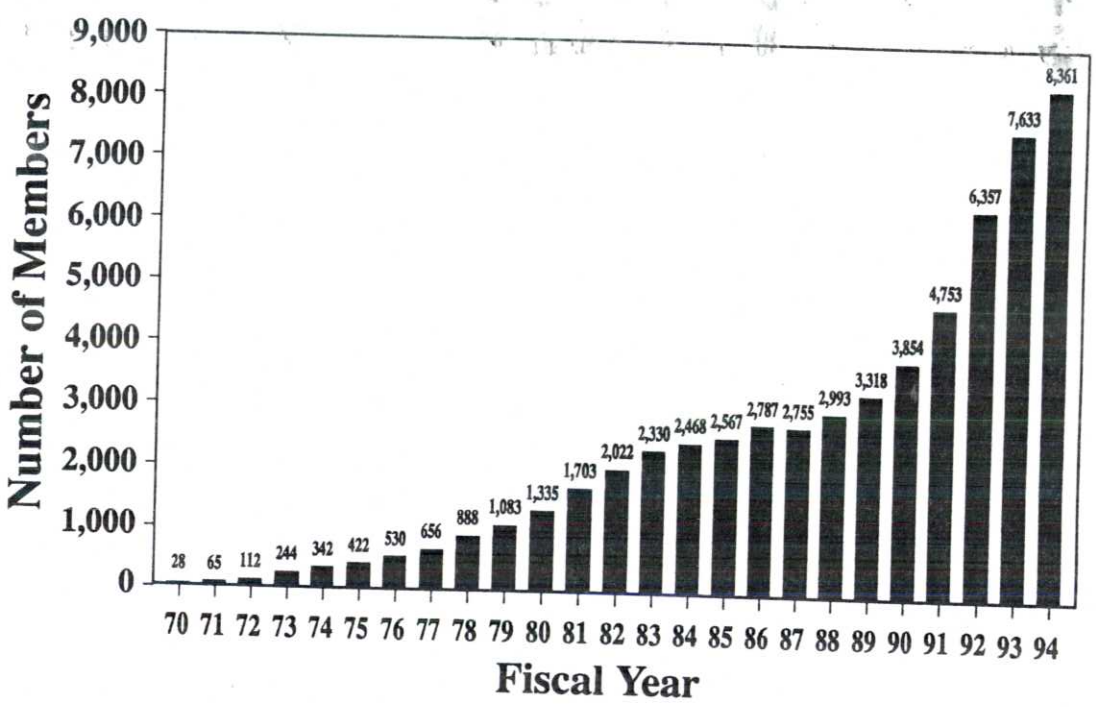

Figure 1. Society of Critical Care Medicine membership from 1972 to present.

obligations. In addition, the physician-directed team should manage the environment of critical care, including the physical plant, equipment, supplies, personnel, and organization.

This multidisciplinary team approach is not intended to disrupt the relationship between the attending physician and the patient. Our view is that an appropriately organized intensive care service supports an attending physician in providing the best possible care. Any physician with a sick ICU patient should be assured of the following: a) a specific therapeutic plan will be developed between the ICU physician and the patient's attending physician; b) sudden, unexpected changes will be expeditiously treated by the physician-directed ICU team; c) timely communication will occur among all involved personnel; and d) the ICU team will provide support in interactions with the patient's family.

SCCM believes that a number of problems occur with the nonteam approach to critical care. Physicians are not available for emergencies. Acute care is frequently not determined at the bedside. Multiple consultants may lead to conflicting orders in complex ICU patients, and it may become difficult for an attending physician to maintain a coordinated care plan. The organ system approach frequently does not work well in the ICU because multiple organs are dysfunctional (Fig. 2). On off-hours and weekends, when much critical care (by its very nature) is needed, multiple covering physicians have difficulty in caring for ICU patients. This situation may lead to a lack of coordinated care and, at worst, chaos. A generalist critical care physician is needed.

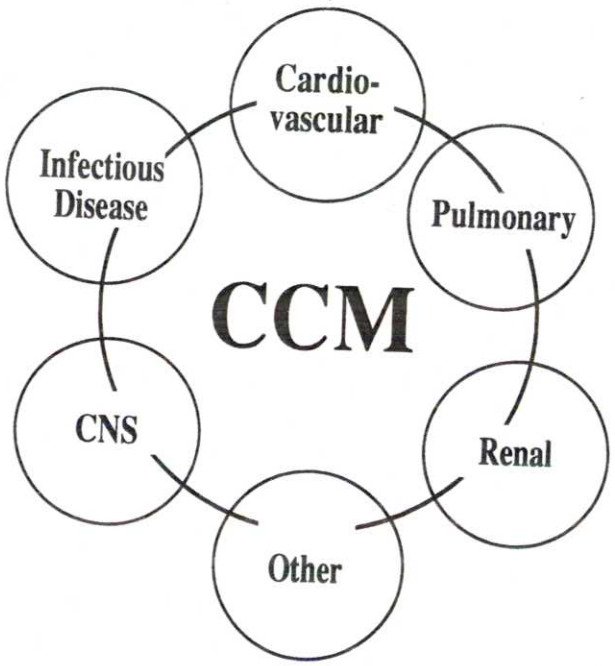

Figure 2. Venn diagram depicting multiple organ system dysfunction typical of critically ill patient. *CCM*, critical care medicine; *CNS*, central nervous system.

Several retrospective clinical trials, in both community (2) and university hospitals (3), have demonstrated

improved outcomes in ICUs that institute a coordinated critical care team approach. A 1984 study by Li et al. (2) in a community hospital showed significant reductions in mortality from cardiovascular disease and septic shock when full-time physician staffing was instituted (Table 1). Similarly, a 1988 study by Reynolds et al. (3) in a university hospital also demonstrated reduced mortality in septic shock patients with the institution of a critical care team approach (Table 2).

In addition to its advantages in handling emergencies and providing coordinated care, the team approach to critical care assures that the therapeutic plan is advanced throughout the day, off-hours, and weekends. Providing cost-efficient care is a high priority in medical care today. This team approach facilitates implementation of practice parameters and guidelines leading to earlier discharges and lower costs. This approach maximizes the value of critical care for our patients.

In addition to advocating the multidisciplinary team approach, SCCM has made a number of other contributions to optimize patient care in the ICU. SCCM's strong support of a formal certification process for critical care physicians led to board-certification requirements and to the subsequent establishment of examinations by anesthesiology, internal medicine, pediatrics, and surgery in the mid-1980s. Following recommendations formulated by SCCM, these specialties codified critical care training to include the following parameters: a) clinical experience in multidisciplinary critical care; b) a comprehensive curriculum, including importance of a compassionate, ethical approach to patient care; c) experience with a wide variety of technical procedures; d) administrative management capabilities, and e) educational skills. SCCM has formulated a large number of important guidelines and practice parameters (Table 3) that provide guidance to professionals regarding the best methods to deliver optimal critical care. SCCM formed the American College of Critical Care Medicine to honor professionals who have made major contributions to our field. Two years ago, SCCM formed chapters to enhance the Society's ability to bring its patient care and educational messages to the state and local level.

To provide an ongoing assessment of critical care needs, SCCM established Project IMPACT (Fig. 3)—an ambitious effort to measure and describe the care of the ICU patient, employing a database and analysis system. Once fully implemented, Project IMPACT will provide an ongoing description and evaluation of the critically ill patient in multiple ICUs nationwide and around the world.

Recently, SCCM turned its attention to critical care workforce needs—a very important issue in today's rapidly changing, increasingly cost-conscious healthcare environment. In 1992, SCCM conducted extensive surveys of ICUs in the United States (4, 5). Based on these data, there are approximately 8,000

Table 1. Impact of critical care physician staffing on intensive care unit (ICU) outcomes: Community hospital ICU

	Year Before (%) (n = 463)	Year After (%) (n = 491)	*p* Value
Mortality			
Cardiovascular disease	51	18	.001
Septic shock	92	61	.04
Overall[a]	—	—	.01
Interventions			
Pulmonary artery catheters	2	22	.0001
Arterial catheters	0	9	.0001

[a]*p* Value determined by logistic regression analysis.
Adapted with permission from Li et al (2).

Table 2. Impact of critical care physician staffing on intensive care unit (ICU) outcomes: University hospital ICU

	Year Before (%) (n = 463)	Year After (%) (n = 491)	*p* Value
Mortality			
Septic shock	74	57	.01
Interventions			
Pulmonary artery catheters	48	64	.05
Arterial catheters	24	73	.001

Adapted with permission from Reynolds et al (3).

Table 3. Society of Critical Care Medicine guidelines and practice parameters

Guidelines for the Definition of an Intensivist and the Practice of Critical Care Medicine
Guidelines for Intensive Care Unit Design
Guidelines for Intensive Care Unit Admission and Discharge Criteria
Guidelines for Granting Privileges for the Performance of Procedures in Critically Ill Patients
Guidelines for Categorization of Services for the Critically Ill Patient
Recommendations for Services and Personnel for Delivery of Care in a Critical Care Setting
Guidelines for the Qualification of a Director of a Fellowship Training Program in Critical Care Medicine
Guidelines for Program Content for Fellowship Training in Critical Care Medicine
Guidelines for the Transfer of Critically Ill Patients
Guidelines and Levels of Care for Pediatric Intensive Care Units
Guidelines for Standards of Care for Patients with Acute Respiratory Failure Mechanical Ventilatory Support
Guidelines for the Care of Patients with Hemodynamic Instability Associated with Sepsis

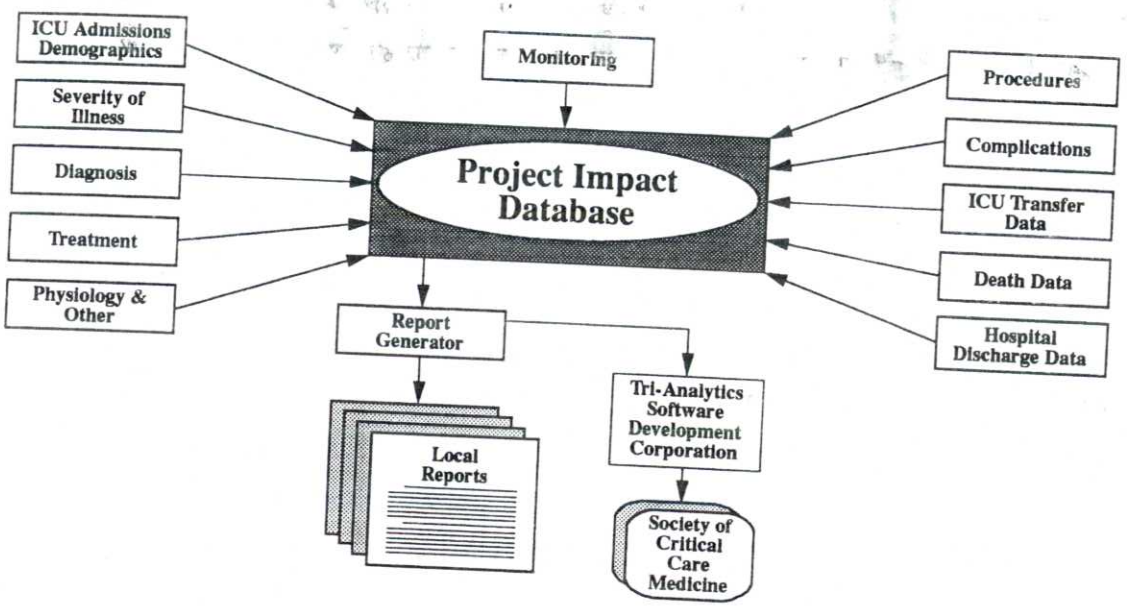

Figure 3. Diagram depicting the operational structure of project IMPACT. *ICU*, intensive care unit.

ICUs in the United States. If one assumes that two to four qualified critical care physicians are necessary to adequately staff an ICU 24 hours a day, 7 days a week, then one would estimate the need for 16,000 to 32,000 ICU physicians to appropriately staff these units. However, there are only 8,086 board-certified critical care physicians in the United States. We conclude that there is a significant shortage of certified critical care physicians. Recently, a joint Task Force, composed of representatives of SCCM, the American Thoracic Society, the American College of Chest Physicians, and the Association of Pulmonary and Critical Care Training Program Directors, agreed to work together to precisely define workforce needs in critical care and provide accurate projections for the 21st century. This Task Force should publish results by the end of 1995.

With the recent emphasis on healthcare reform and restructuring of the healthcare system, SCCM responded to membership requests by forming a Health Care Policy Division that actively champions the importance of organized critical care medicine in any reformed healthcare system. This effort required establishing a dialogue with key members of Congress, the White House, the Health Care Financing Administration, and numerous government agencies, as well as the American Medical Association and other healthcare organizations. SCCM provided a strong voice at the national and local level to advocate the need for a multidisciplinary, physician-directed, ICU-based team approach to critical care and the importance of fair reimbursement for complex and time-consuming critical care services. Through its efforts in public policy issues, development of guidelines and comment on ethical issues, SCCM continues to advocate for humane, compassionate, and ethical treatment of the critically ill and the importance of defining futile care.

SCCM's accomplishments in education and research are truly impressive. This year, the 24th Educational and Scientific Symposium attracted approximately 2,500 physicians, nurses, allied health professionals, and industry leaders to partake of a program rich in reviews, panel discussions, technical demonstrations, and original scientific presentations. Approximately 480 abstracts of original scientific work were presented at this symposium, with topics stretching from the molecular genetics of sepsis to the ethical dilemmas facing healthcare practitioners. SCCM continues to sponsor many important educational programs, including the Multidisciplinary Critical Care Review Course, Controversies in Critical Care, and the recently launched Fundamentals of Critical Care Support course, designed to teach the fundamentals of critical care to primary care physicians. SCCM publishes a number of self-assessment examinations to allow formal evaluation of fellows and physicians who are training in critical care.

SCCM's most important and prestigious publication, *Critical Care Medicine*, has a circulation of more than 15,000 individuals and medical libraries, and publishes original investigations, editorials, and reviews. Under the former leadership of William C. Shoemaker, MD, FCCM and the current leadership of Bart Chernow, MD, FCCM, this journal has evolved into a highly selective peer-reviewed publication that

accepts only approximately 30% of the original manuscripts submitted. Other important SCCM publications include *New Horizons*, which contains topic-oriented reviews, and *Critical Care: State of the Art*, which contains the major scientific reviews presented at SCCM's Educational and Scientific Symposia.

Research is an important priority for SCCM. In addition to the journal publications and the scientific abstract presentations at the Symposium and Chapter meetings, SCCM encourages the highest quality of research by directly sponsoring a number of research awards and grants (Table 4). These awards honor the scientific accomplishments of senior scientists (Distinguished Investigator Award), fellows, nurses, and professionals contributing to improvements in methods of ICU care. SCCM directly funds research through its Established Investigator Research Grants, Post Fellowship Research Grants, and the Norma J. Shoemaker Grant for Critical Care Nursing Research. During a 3-year period, SCCM has committed more than $700,000 to awards and grants to directly promote research in critical care medicine.

SCCM successfully influenced the National Institutes of Health to recognize the importance of critical care research. Responding to our Research Division's testimony to Congress, the National Heart, Lung and Blood Institute convened a Task Force, largely composed of SCCM members, to write a report entitled "Cardiopulmonary Dysfunction in Critical Care Medicine" (6). This document will be used as a blueprint to guide the National Institutes of Health in the funding of critical care projects during the next 10 years.

Despite the accomplishments of the past 25 years, many challenges and problems face the field of critical care medicine and the SCCM. *First*, we must continue to champion our belief that critically ill patients are best served by a multidisciplinary, ICU-based, physician-directed team approach (Fig. 4). We must perform convincing, prospective studies that demonstrate the superiority of patient outcomes from this approach.

Second, as we define and address critical care workforce needs, we must better define a career pathway that will attract the highest quality of physicians and other personnel to our discipline. Many students and trainees are attracted to critical care medicine but are discouraged by the relative lack of a clearly defined pathway that leads to a rewarding career in critical care medicine. Too often, our discipline is considered an appendage of another field. We need to clearly define the important components of a successful career in academic or community-based critical care, and promote positive role models that reflect the rewards of a satisfying career in critical care medicine.

Third, we must maintain and strengthen our role as patient advocates and promote the finest patient care. Some managed care organizations advocate cost as the highest priority in health care. Our highest priority, however, must always be the patient and assuring the finest quality care. We must rededicate ourselves to this goal and find effective methods to assure that patient care quality remains the number one issue in the ICU.

Fourth, we must meet the challenges posed by healthcare reform and managed care that will lead to more cost constraints and decision-making by non-health professionals, including insurers and managed

Table 4. Society of Critical Care Medicine Research

Awards
Distinguished Investigator Award
Fellow Awards: In-Training
Fellow Awards: Young Investigator
Norma J. Shoemaker Award for Critical Care Nursing Excellence
Shubin-Weil Award of Excellence
Specialty Awards
ICU Design Citation
Grants
Established Investigator Research Grant
Founders Post Fellowship Research Grant
Post Fellowship Research Grant
Norma J. Shoemaker Grant for Critical Care Nursing Research

ICU, intensive care unit.

Figure 4. Venn diagram of multiple disciplines that make up critical care medicine (*CCM*).

care organizations. We must show that coordinated management by a multidisciplinary ICU team leads to the most effective, cost-efficient patient care delivery.

Fifth, we must establish critical care research as equal or superior to other medical fields. Quality research is absolutely necessary to advance our ability to understand and optimally manage critical illness. We need to strengthen our efforts in all areas of research from molecular biology and cell physiology to multicenter clinical trials and optimal methods of critical care delivery. This task requires attracting the finest personnel to our field and assuring that they have the time and resources to pursue excellence in research.

Sixth, we must promote critical care as compassionate care. The patients and the public must view our efforts in the ICU as they are truly intended: compassionate attempts to make a very sick patient well and return them to a normal lifestyle. Too much emphasis is placed on the high-technology, impersonal nature of the ICU environment. We must emphasize the personal, compassionate side of critical care medicine.

Ultimately, meeting these challenges will require a commitment to our vision and goals, hard work, and a coordinated effort. SCCM stands ready and committed to provide leadership and resources to meet these challenges. We invite and urge your participation in our efforts.

I would like to express my appreciation to several people who have been important to me and to SCCM. First, whenever one sets sail on a new mission, they need a partner. My wife, Gale, has been my partner, supporter, and the love of my life for more than 25 years now, and I would like to thank her deeply for that love and support. Second, SCCM's accomplishments are due to the dedication of its members, like you, and to the extraordinary efforts of the staff at the Society's Executive Office. Their hard work, skillful administration, and dedication to the vision of SCCM has made all the accomplishments possible. Special thanks are due to Norma Shoemaker, MN, FCCM, the Executive Director of SCCM. An ICU nurse turned administrator, Norma has been Executive Director of SCCM since 1978 and has announced her plans to leave the Society after this year to pursue other interests. Norma has spent thousands of hours providing SCCM with skillful leadership, boundless enthusiasm, and tireless dedication. On behalf of the Society and myself, our deepest thanks go to Norma.

Finally, I would like to reiterate my thanks to you for allowing me to serve as your president. I look forward to working with you to achieve our goals during this next year.

Joseph E. Parrillo, MD, FCCM
1995 President
Society of Critical Care Medicine

REFERENCES

1. Society of Critical Care Medicine Council: Society of Critical Care Medicine's vision for critical care. *Crit Care Med* 1994; 22:1713
2. Li TCM, Phillips MC, Shaw L, et al: On-site physician staffing in a community hospital intensive care unit: Impact on test and procedure use and on patient outcome. *JAMA* 1984; 252:2023–2027
3. Reynolds HN, Haupt MT, Thill-Baharozian MC, et al: Impact of critical care physician staffing on patients with septic shock in a university hospital medical intensive care unit. *JAMA* 1988; 260:3446–3450
4. Groeger JS, Strosberg MA, Halpern NA, et al: Descriptive analysis of critical care units in the United States. *Crit Care Med* 1992; 20:846–863
5. Groeger JS, Guntupalli KK, Strosberg MA, et al: Descriptive analysis of critical care units in the United States: Patient characteristics and intensive care unit utilization. *Crit Care Med* 1993; 21:279–291
6. Cherniack RM, Demling R, Guiterrez G, et al: Task Force on Research in Cardiopulmonary Dysfunction in Critical Care Medicine: Cardiopulmonary Dysfunction in Critical Care Medicine. Washington, DC, U.S. Department of Health and Human Services, 1994, pp 1–119