The World Federation: Enhancing Global Critical Care Practice and Performance

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So what's the point of reading about health care challenges in developing countries? How does it help us practise better medicine and lead better lives? Our answer is that medicine cannot be practised in isolation. As the world becomes smaller, health care around the world has more, not less, in common. All health care systems struggle with the challenges of limited resources and growing demand. As well as providing clinically practical, we think the BMJ has a role in presenting an international perspective on health care [1].

The World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM) (www.world-critical-care.com) is an international organization composed of 42 member national societies of intensive medicine and critical care medicine (CCM) representing approximately 38,000 physicians and allied health professionals. To appreciate the importance of international collaboration in the various specialties, it is imperative to recognize not only the similarities within health systems, but also to recognize the international focus of disease. From the initial severe acute respiratory syndrome episode, linked by mad cow disease and associated dietary change, and today's avian flu, pictures of masked agricultural workers and health care professionals from around the world destroying livestock and birds have become commonplace. Perhaps less well appreciated but crucially important to world health is the underlying interpersonal communication and data sharing between clinicians in all parts of the world to contain the disease and effect cures against the unknown. Physicians who dealt with severe acute respiratory syndrome in Hong Kong and Toronto were caught unaware and needed to define isolation procedures and barrier precautions that have been unprecedented in recent times; indeed, ICU morale becomes

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an issue when the care providers not only are in danger, but also become patients and add to mortality statistics.

Drucker (1902–2005), who pioneered the art of management consultancy and quality improvement, asked several important questions, the most telling of which may have been whether or not one would again enter the business they are in today. For those who have children, the question whether they will follow in their parents' footsteps is germane and a specific twist on Drucker's challenge. Today, although the subspecialty of CCM is proselytized medical professional organizations, the reality is that relatively few physicians are certified in this subspecialty worldwide. In the United States, recent attempts to increase exposure to CCM in residency training program have been met with concern because of the potential reduction in training time in operating room techniques. It is interesting to compare and contrast the role of anesthesiologists in the different international models of critical care delivery with the current situation in the United States.

Drucker also pointed out that, whereas "the overseer of the unskilled peasants who dragged stone for the pyramids did not concern himself with morale or motivation, modern management's task is to make people capable of joint performance, to make their strengths effective and their weaknesses irrelevant" [2]. This is an opportunity that is inherent in today's CCM practice, and physicians involved in this subspecialty must embrace the additional tasks of manager, coach, cheerleader, and Gunga Din. Each institution has to do its own work in the same manner that each instrument in an orchestra plays only its own part; but there is also the score, the community. If each individual instrument contributes to the score, then there is music. This is the ultimate job of the critical care specialist; it is more than being the conductor, it is creating the environment in which conducting is an understood and desirable component of the process.

As with any other organization operating on the global stage, the WFSICCM has in recent years adopted a more strategic outlook on its future development and direction. This strategic outlook is increasingly important in securing the organization's growing role in providing leadership and direction to the critical care community and in working with commercial partners to ensure adequate funding of global education and research of all types.

CCM is perhaps one of the most productive areas where the professional and industry communities can work together to identify and disseminate examples of best practice. Increasingly, critical care professionals look to the WFSICCM to be a source of authoritative guidance on the use of products (pharmaceuticals or equipment) within accepted treatment pathways. This is especially vital in those countries where CCM is evolving as a specialty but equally means the WFSICCM must attract funding to continue its work (Phil Taylor, personal communication, 2006).

The international activities of the WFSICCM include sponsoring educational symposia; disseminating information on how to implement

nation- and region-specific guidelines and practice bundles (Surviving Sepsis Campaign member); hosting quadrennial Congresses on state-of-the-art techniques and practices in CCM; and providing an international home for relevant information on critical care services and organizations worldwide. There is a great deal of attention paid to CCM and its physician providers, especially in anesthesiology. I hope that their fate is not similar to that of past printers who were showered with honors and riches, as technology wizards are today. But then printing came to be taken for granted, and the printers' place of honor was taken by publishers, the controllers of "content" [2].

The challenge for critical care physicians and this specialty is to determine who the new controllers of content are and to see whether or not one wishes to resist their advances. "The trick, says an article in this month's Harvard Business Review, is to find out what your customers expect from you, and then shatter those expectations in ways that lift you above the crowd and create whole new markets" [3].

The WFSICCM is an international organization composed of National Critical Care Societies. Its organizational mandate is listed as follows:

- Establish world-wide collaboration between national and multinational societies of intensive and critical care medicine
- Assist and encourage the formation of new societies
- Sponsor world congresses and support other like congresses as requested
- Promote multiprofessional and multinational interaction
- Provide advice and cooperate with relevant bodies in the field of intensive and critical care medicine
- Disseminate scientific and educational information
- Establish the highest context correct standards in patient care, training, equipment design, and safety measures
- Encourage research and dissemination of new knowledge in the field of intensive and critical care medicine
- Establish accessible educational resources for all interested professionals involved in intensive and critical care medicine

The WFSICCM enhances medical care through promotion of global education and research activities of all types. It depends on the excellence of national and multinational societies and focuses on the transition from curing to caring; from promoting technologically driven to humanism and holistic care. One of the difficulties associated with categorizing or institutionalizing CCM is its independent personality depending on practice location and paradigm definition. For example, the following models are independently recognized and practiced.

First, emergency care may be the public's first exposure to critical care and has an immediate impact on the patient's well-being and family's perception of the effectiveness of the health care system. Emergency care creates

the first tension between the appropriate disposition of scarce resources and the outcomes provided by their effective use. Unfortunately, this exposure is often fragmented and leads to tension between various institutional organizations; the emergency department, specialty-specific ICUs, and the allocation of step-down and other scarce patient care resources. The importance of the ICU paradigm is to recognize the pre-eminence of an integrated team approach to care that transcends professional boundaries and national and international borders.

Second, organized CCM recognizes a model that focuses on holistic patient care within the context of family support at the bedside where appropriate. No longer is the model one of exclusion; rather, current practice is increasingly recognizing the importance of accountability and inclusion as the reality of patient outcome moves from cure to care. Resource use is an equally important facet of this model, but it incorporates the requirement for follow-up clinics with detailed outcome assessments that highlight quality of life after ICU discharge and the impact of successful care on patients and their families. The most cost-effective model of CCM is early cure and discharge; unfortunately, current technology may create an intermediate (gray zone) level of care in which anticipated outcome is poor and yet one in which the practitioner must continue to afford the most sophisticated care possible. Ultimately, patients declare their outcome, and one of the most difficult of all ICU tasks is the management of the patient, family, and staff in the transition from cure to care in the terminal stage of disease. This is an often neglected discussion in critical care, yet it is one that must be incorporated in all models and levels of care.

Critical care has always incorporated a multitude of therapeutic interventions including those that have been regarded as innovative (experimental); algorithmic; and questionable. The ICU became one of the earliest environments to incorporate outcome analysis to its therapeutic paradigms. Today's use of algorithms for mechanical ventilation, blood glucose control, and antibiotic administration is beginning to have a significant and positive impact on patient outcome. These changes do not come easily, however, and in many institutions the imperative on usual and customary care outweighs the importance of defining a culture of change founded on the principles of quality improvement activities. In today's critical care environment, change is not an option; it is a requirement for excellence. The WFSICCM supports a global initiative to redefine cost-effective, culturally sensitive, and domestically appropriate care paradigms that provide access for the greatest number of patients to the most sophisticated, effective, and locally obtainable care. In pursuing this goal, the WFSICCM is working with its national members to create a resource database that helps organizations petition local governments for resources comparable with regional standards.

Critical care has been defined by its location rather than by any specific educational or credentialing criteria. It is a technologically dependent profession that requires a team approach to care and is focused on individual

outcome. The practice of medicine is more accurately described globally and with epidemiology in the forefront of population outcomes. The juxtaposition of the terms “critical care” and “medicine” is fortuitous; it provides the practitioner with the understanding of the paradox in which he or she practices while enhancing the responsibility to use the resources committed to the profession effectively and expeditiously. Within this context, today’s critical care physician is charged with a number of interlocking and interdependent requirements (Box 1).

“The more one reconstructs, the further one drives things back into history, resulting in a dead contact-the myth of the Golden Age. A musician approaching an 18th century work after playing something from the 20th century has a much broader view than these 18th century specialists who end up locking themselves in an antique armoire”.

Physicians today are experiencing frustration as changes in the health care delivery system in virtually all industrialized countries threaten the very nature and values of medical professionalism. Medicine’s commitment to the patient is being challenged by external forces of change within societies [4].

These statements underscore the challenges of the international organization as it proselytizes the highest standards with the knowledge that even in the most affluent environments, the ideal is seldom met. This recognition, however, provides a greater opportunity for all team members to accomplish the elusive goal of continuous improvement rather than instant perfection. Indeed, the mission of an international organization must be to promote excellence at the local level rather than espousing a single international standard that is unattainable in most cases. The fundamental principles of care must not be compromised, irrespective of the location (Box 2).

Physicians are expected to work collaboratively to maximize patient care, be respectful of one another, and participate in the process of self-regulation, including remediation and discipline of members who have failed to meet professional standards. Physicians have both individual and collective obligations to participate in these processes. The obligations include engaging in internal assessment and external scrutiny of all aspects of their professional performance. “Good” decision making requires adequate knowledge of the causal interdependencies between various choices and likely outcomes (David Walsh, personal communication):

- Weighing outcomes in terms of personal goals achieved by the decision increases its complexity. Best decisions have objective and subjective components. Inadequate knowledge = unprepared for complex decision analysis; those who know more make better decisions
- Small proportion of relevant information used to make decisions
- Expert made complex decisions more systematic and “script” like than novice

The aims of the WFSICCM are to promote international critical care that is safe, effective, patient centered, timely, effective, and equitable. To

Box 1. Interlocking and interdependent requirements

Patient care

Physicians are expected to define appropriate care standards and to manage patient and family expectations of care rendered.

Clinical research

The role of new discovery and its international dissemination is of paramount importance if effective clinical practice is to be afforded across international populations. The recent development of avian flu and its anticipated global spread or of the Chikungunya fever in Reunion and Mauritius had significant importance, not only for the patients affected, but also for the fiscal implications of its impact on tourism and whether or not changes in the density of international travel will alter disease demographics.

Resource management

The effectiveness of therapeutic algorithms becomes an important consideration in care delivery as translation of high technology requirements into less well developed areas becomes an important consideration for developing countries. The WFSICCM has been effective in developing a bridge between the recommendations of the Surviving Sepsis Campaign and the available resources in worldwide locations.

Administration

Critical care physicians are charged with the administrative task of accomplishing the preceding activities in a cost-effective, resource conserving, and societally responsive manner. This is not a trivial responsibility and the WFSICCM provides resources that help accommodate the responsibility by improving communication and information sharing worldwide. Perhaps the most important administrative task is to create the multidisciplinary, multiprofessional teams that are required to manage situations of increasing complexity and stress. The ability to create shared mental models that incorporate the skills and requirements of nurses, physicians, pharmacists, clergy, respiratory therapists, ward support staff, patients, and their families requires compassion, honesty, and the willingness to establish an environment of trust and shared worth that is not necessarily the norm in medical practices. For a critical care unit to deliver exemplary care, it must continuously analyze and improve its delivery process. This requires enlightened leaders and a supportive environment in which mistakes lead to improvements, not censure. Critical care is the ultimate team sport.

Box 2. Fundamental principles of care*Primacy of patient welfare*

Critical care providers must remain dedicated to serving the patient's interest.

Altruism equals trust between patients and providers, providers and families, providers and one another, and unit priorities and administrative exigencies.

Physicians must question market forces and administration exigencies when these compromise a physician's legitimate therapeutic prerogative. This activity can only occur in an institution and practice environment in which continuous learning and improvement are the accepted norm.

Patient autonomy

Patient's care decisions are paramount

This must be considered in the context of ethical practice or inappropriate care, especially if it runs counter to the appropriate distribution of scarce resources.

Social justice

Fair distribution of health care resources

Elimination of all social category discrimination (race, gender, status).

accomplish this goal, it must be recognized that significant change in current delivery systems must be undertaken. There are a number of impediments to undertaking change in the medical communities served.

According to Berwick [5], one can define the reasons in the following manner: the data indicating the need for change are incorrect; the data are correct, but it is not a problem in our institution; the data are correct and I understand that a problem exists; unfortunately, it is not my problem and I cannot take responsibility for its resolution; or I understand the problem and accept the responsibility and burden to undertake change and make improvements in the system. This awareness has been difficult to achieve in today's compartmentalized health care delivery system. For organizations to realize their future potential, it is necessary for them to clarify the local (institutional), regional, national, and international improvement goals. It is in this arena that international organizations have an important presence and may help national organizations attain governmental resource allocation and recognition. The WFSICCM has provided opinions regarding ICU design, the appropriate use of pressure swing adsorption versus cryogenic oxygen production in supplying oxygen for medical use, region- and nation-specific implementation guidelines for the Surviving Sepsis Campaign,

and courses in the use of hypnotics and pain relief in the ICU. Additionally, further society goals include revision of the WFSICCM's humane and ethical principles and the formulation of regional educational resources to promote international accreditation standards in CCM.

Concurrently, it is important to devise immediate interventions that, while proselytizing long-term improvement, effect immediate improvements on the care currently rendered. This may become routine with the introduction of simple team building exercises into the ICUs. The environments are complex and we cannot wait for the success and maturation of new medical school curricula to expand on the use of today's learning paradigms. Resident education in the United States is now expected not only to educate trainees in six core medical competencies but also to implement evaluation tools that provide appropriate feedback to the learner [6]. Three of the areas are easy to understand and follow familiar themes: (1) medical knowledge, (2) patient care, and (3) case-based learning. Today's practitioners can relate to these activities and define the manner in which they were taught and examined. More difficult to teach, and certainly more difficult to evaluate, however, are the remaining competencies of professionalism, interpersonal and communication skills, and systems-based practice. These are proving to be core skills that lie at the heart of future medical system change and concomitant improvements in patient care. With the successful implementation of the core competencies across all resident education programs and their acquisition by the trainees, it is likely that future physicians will be able to undertake the challenges associated with improving care delivery in complex and resource constrained environments successfully. Once the personal level of care has been addressed, it is more likely that the organizations that deliver care will be positively impacted. The value of the international organization is that, paradoxically, it is often more capable of representing the individual physician than the local medical staff or hospital organization. The critical care physician is often in the minority and advocates for changes that are foreign to much of organized medicine. Nowhere is the requirement for team patient care more readily apparent than in the ICU; it is natural that improvement efforts should be focused in this area. The challenge for today, however, is to help stimulate realistic change that not only enhances patient care but also seeds the environment for the introduction of behaviors to come. Perhaps the easiest intervention is to introduce the concept of a team huddle before initiating a procedure or embarking on specific patient care to reinvigorate the dedication of the unit's mission to individual care. It is important to expand the traditional nursing handoff reports into a team discussion about the patient and his or her circumstances. Physician ward rounds, nursing reports, nutritional assessments, pastoral care discussions, respiratory therapy intervention, and family interactions must be integrated to accommodate this goal. Initially, this is an intrusion into the daily routine, but rapidly it becomes a well-recognized and valued part of the ICU's culture. It allows all care providers to

discuss individual concerns in a manner that is supportive and likely to lead to improved individual and team performance. Irrespective of the event, there is no team contest that begins without a player conference detailing the strategy of the day rather than relying on past performance or the chance of missed signals or strategies compromising the result. How can health care professionals participating in a team environment consider a less rigorous approach to patient care strategic planning?

International critical care organizations must consider the medical implications of international disease and the legal and personal rights challenges it poses. In the United States, the Health Insurance Portability and Accountability Act of 1966 imposes significant penalties for breach of confidentiality of health care information. Undoubtedly all understand the professional and societal dilemma of maintaining strict confidentiality of personal information that could have significant implications for a person's employability, insurability, and social acceptability versus the challenges associated with the information itself if its maintained confidentiality endangers the public good. Quarantine was seen as an effective mechanism to sequester diseased persons to minimize the spread of disease. Today, millions of birds have been destroyed to contain avian flu, but the disease is spreading along well known bird migratory routes. It is apparent that quarantine is unlikely to be a successful defense in the international community. If this is the case, then what personal information about travelers who have recently visited disease endemic regions should become publicly available and to who? It is possible that knowledge of disease transmission patterns could lead to earlier diagnosis and potential therapeutic solutions; however, to obtain this degree of specificity, it is likely that traditionally held beliefs of personal privacy would be compromised and the international response to such information requests is suspect at best. The value of international organizations in this situation becomes uniquely important, because networked databases that contain personal identifiers free, but nonetheless valuable demographic information, may be made available to physicians worldwide while the personal prerogatives of patients and their families becomes the debate of international legislative and diplomatic bodies. Patient care cannot wait; the international community must determine a rapidly responsive mechanism through which early disease identification, isolation, and treatment can be effected.

The Sicilians never want to improve for the simple reason they think themselves perfect; their vanity is stronger than their misery (Giuseppe Tomasi di Lampedusa in *The Leopard*). Health care systems fail to provide treatments that are known to work, persist in using treatments that do not work, enforce delays, and tolerate high levels of error [7].

It is easy to understand why institutions and organizations resist change; change management is difficult and no one likes to admit that current practice is flawed and unlikely to be maximally effective. It is only in those situations where the cost of error becomes readily apparent that

reorganization occurs. The safe, high-performance environment is an improvement paradigm in business and military organizations but surprisingly not in medicine. Perhaps the traditional dominance of the physician, and perhaps most specifically the surgeon, has paralyzed medicine from taking appropriate steps to reorganize its culture to create a more patient-responsive environment. The critical care unit is unique in the institution because it usually receives the maximum resources in proportion to the institution's capacity and relies, varyingly, on a team approach to patient care. It is in this framework that the international organization must add value and help local practitioners improve patient outcome cost effectively. The WFSICCM's global goals are to prevent needless pain, suffering, and death. Site-appropriate excellent care must be accomplished rapidly and delivered with attention to local custom, national resources, and international requirements. No clinician practices in a local regional or national vacuum; all are members of a global community whose disease patterns transcend national borders. A practice must reach a level of professionalism that is defined by global compassion and international standards of excellence. The paradox of the challenge to accomplish these goals is best stated by Lao-tzu in the Tao te ching (4th century BC):

We join spokes together in a wheel, but it is the center hole that makes the wagon move. We shape clay into a pot, but it is the emptiness inside that holds whatever we want. We hammer wood for a house, but it is the inner space that makes it livable. We work with being, but non-being is what we use.

The importance of global representation for the critical care community cannot be overemphasized. The WFSICCM is dedicated to raising awareness of the unique problems faced when international standards impact local conditions and when local disease impacts international communities.

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