

Cultural Proficiency in Addressing Health Disparities. Sade Kosoko-Lasaki MD MSPH MBA, Cynthia Theresa Cook PhD, and Richard L O'Brien MD, editors. Sudbury, Massachusetts: Jones and Bartlett. 2009. Hard cover, illustrated. 433 pages, \$62.95.

The demographics of the United States of America are changing at a rapid pace. "Minority," the term often used to describe people of color, is no longer accurate, as this group already makes up the majority of 30% of the most populated United States counties, and this group is projected to compose the majority of the United States by mid-century. As we care for persons of diverse cultures, ethnicities, and races, it becomes paramount to understand the unique health beliefs and behaviors of each group. In their book, **Cultural Proficiency in Addressing Health Disparities**, Kosoko-Lasaki, Cook, and O'Brien attempt to facilitate this cultural proficiency by educating the reader on the many facets of health disparities, the adverse outcomes of health disparities, and the positive effect cultural proficiency can have on improving health care for all. The intended readers are practicing clinicians interested in developing a broad overview of health disparities and incorporating cultural proficiency into their interactions with patients.

The book begins with a brief but thorough overview of health disparities. It distinguishes health-care disparities from health disparities by providing definitions from the leaders in the field. The authors use the Institute of Medicine's definition of health-care disparities: differences in the quality of health care that are not due to access-related factors, clinical needs, preferences, and appropriateness of intervention. The authors chose the National Institutes of Health, which promoted health disparities to third on its list of top organization priorities, in defining health disparities: "The differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific groups in the United States." Health-care disparities therefore are a separate but often an important component of health disparities.

With a clear definition of health disparities provided, the authors then delineate the factors known to contribute to health disparities, including education, insurance status, health behavior, health-care-provider behavior, and segregation. They provide specific examples of each to provide the reader with a better understanding of how these factors affect disparities. The authors also provide a history of minority health in the United States and link the history of poor minority health and health care to the paucity of medical colleges dedicated to training black physicians. It is interesting when the authors note, for example, that the well publicized Flexner Report published in 1910 advocated for black medical schools to ensure that black physicians would be in ample supply to treat black patients. The report reasoned that this would reduce the need for black patients to seek care from white physicians and also prevent the spreading of disease from blacks to whites.

The first chapter also summarizes chronic diseases such as obesity, asthma, and diabetes, for which the effects of health disparities have been well described. Key articles associated with each are mentioned, as well as gaps in the literature. The chapter concludes with solutions for the reduction and elimination of health disparities.

The subsequent chapters expand upon the first, focusing on key modifiers to health disparities. Chapter 2, for example, focuses on patient trust and trustworthiness. The authors contend that trustworthiness, rather than trust, should be the focus for those interested in alleviating disparities. Improved trustworthiness will increase patient trust, which in turn will lead to improved communication, timely care, healing, and patient loyalty. A framework for addressing trust and trustworthiness is provided and is based on core ethical principles of respect, justice, care, and community. This framework is designed to help clinicians develop trustworthiness with their patients, and describes evaluation tools to be constructed to measure provider trustworthiness. For those who find the framework too nebulous, more specific guidelines are provided, such as "ensuring equal, high-quality, and humanistic care dealings and treatment." Chapter 3 takes a similar approach to justice and justness by

emphasizing that discussions of justice in health care are too often linked to the economics of health care. Justness, Kissell argues, highlights the fact that health care is an issue of moral responsibility.

The key modifiers of disparities (trust, trustworthiness, justice, and justness) are explained; then the authors devote substantial time to emphasizing the role of academic medical centers (Chapter 4) and various health care providers (nurses in Chapter 5 and trained medical interpreters in Chapter 6) in resolving disparities. They identify specific areas where each can play a pivotal role in improving patient outcomes. With almost 20% of American households speaking a language other than English at home, the importance of language access for patients cannot be overstated. The authors provide imaginary but realistic examples of how limited English proficiency can lead to poor health outcomes.

A particular strength of the book is its devotion to history. Sufficient time and attention are spent explaining the elevation of health disparities as a national priority. This is exemplified in Chapter 4, which describes the Minority Health and Health Disparities Research and Education Act of 2000 and the subsequent transformation of the National Institutes of Health's Office of Minority Health into the National Center on Minority Health and Health Disparities. The chapter on medical interpreters provides a historical timeline of how the field evolved from one of community interpreting to one of improved competence and standardization with the creation of medical interpreting degrees and certificate programs.

For those interested in health disparities and cultural competency research, a portion of the book is devoted to methodology, available instruments, and statistical analyses. By its very nature, disparities research can be difficult, as the populations of interest may harbor a distrust of the health-care system and a reluctance to participate in studies. The authors mention several additional barriers to engaging diverse communities in research, including lack of relevance to research, lack of identifiable benefits, and conflicts in values and benefits. The authors describe instruments that they developed to identify perceived cultural competency.

They point out that no study to date has demonstrated that cultural competency leads to reduced health disparities, but also point out that few means have been developed to accurately assess cultural competency. Developing those instruments is a priority in determining the future steps in reducing disparities.

The later chapters of the book deal with health disparities in specific cultures, including Hispanics, Native Americans, and foreign-born persons. Unique challenges for prevalent chronic diseases affecting each group are discussed, as well as the current policies and practices for alleviating them. The final chapters deal with the perspectives of cultural competency in various regions of the United States, including Nebraska (where many of the authors and contributors are located) and St Louis. It is unfortunate that additional geographic locations were not added to this list, such as those on the coasts, where the highest concentrations of people of color reside.

Overall, **Cultural Proficiency in Addressing Health Disparities** serves as a good introduction to the field. The book departs from seminal texts by providing historical references and concise examples. Flow diagrams, tables, and illustrations are prominently placed to make complex information easier to grasp. This allows the reader to feel invested in the topic and to gain a better understanding of how cultural differences influence health outcomes. Most importantly, guidelines are provided to direct practicing clinicians in caring for their diverse patients.

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The author has disclosed no conflicts of interest.

Mosby's Respiratory Care Equipment, 8th edition. JM Cairo PhD RRT FAARC and Susan P Pilbeam MSc RRT FAARC. St Louis: Mosby-Elsevier. 2010. Hard cover, 856 pages, 635 illustrations, \$86.95.

Workbook for Mosby's Respiratory Care Equipment, 8th edition. JM Cairo PhD RRT FAARC, Susan P Pilbeam MSc RRT FAARC, and Sindee Kalminson Karpel MPA RRT. St Louis: Mosby-Elsevier. 2010.

Soft cover, 336 pages 75 illustrations, \$32.95.

The 8th edition of **Mosby's Respiratory Care Equipment** once again provides respiratory therapists (RTs) with an excellent resource for their department, classroom, or personal consumption. Cairo and Pilbeam, editors of this comprehensive guide to respiratory care equipment and techniques, last produced **Mosby's Respiratory Care Equipment** in 2004. The hard-cover, 8th edition looks similar in content, layout, and size, at 856 pages. However, there is one major addition this year, with the introduction of the **Workbook for Mosby's Respiratory Care Equipment**, by Karpel.

Upon opening **Mosby's Respiratory Care Equipment**, the first thing that caught my attention was an attractive preface, which is an improvement over the 7th edition. It is here that readers can obtain high-level insight into what the book has to offer. For continuity's sake, the chapter layout in the 8th edition of **Mosby's Respiratory Care Equipment** is identical to the 7th edition, and starts with basic physics for RTs. It is upon this foundation that Cairo and Pilbeam build out the book's 15 chapters. Each chapter begins with an outline, objectives, and key terms to aid the reader with navigating its contents. Chapter summaries are given in the form of bulleted key points—a format I find appealing. Clinical rounds questions are again interwoven throughout each chapter, challenging the reader to think through the material covered in the text. However, the 8th edition requires you to register and log on to the Web-based Evolve interactive learning environment to ascertain the answers. I was disappointed to find that, upon completing the simple registration form, the online resources for the 8th edition were, at the time, “in development.”

Following the first chapter, on basic physics for RTs, Cairo and Pilbeam delve into the manufacture, storage, and transport of medical gases. In addition to covering the basics related to properties of medical gases, cylinder sizes, index safety systems, and bulk liquid systems, the editors introduce newer technology in portable liquid oxygen systems, such as Helios (Tyco Puritan Bennett, Pleasanton, California).

Chapters 3 and 4 focus on flow meters, controlling devices for medical gas delivery, and humidity and aerosol therapy. New to the 8th edition is the introduction of high-flow nasal cannula systems, such as those

produced by Vapotherm and Salter Labs. However, readers should be prepared to find this therapy under low-flow devices, as they are classified as variable performance, due to the inspiratory flow demands of individual patients. I also noted that many figures have been updated in this edition, such as the picture of the INOmax DS nitric delivery system (INOmax, Clinton, New Jersey) and the infant incubator.

Cairo and Pilbeam perform an excellent job of reviewing pressurized metered-dose inhalers and dry-powder inhalers, in light of a rapidly changing market and newly imposed Food and Drug Administration regulations that require the tracking of actualizations. One topic that could have been addressed a bit more is the challenges that counters on pressurized metered-dose inhalers pose to utilizing this type of aerosol delivery in-line with a patient's ventilator circuit.

In light of our current bout with the novel H1N1 virus, I found that the chapter on infection control provided an easy to read table on guidelines for standard and transmission-based precautions produced by the Healthcare Infection Control Practices Advisory Committee. Additionally, a small portion of this chapter is dedicated to infection-control issues during mass-casualty events, including a table of potential agents and recommended precautions. However, readers are again directed to the Evolve Web site for additional information on infection-control measures and mass-casualty respiratory failure, which at the time of this review was not up to date.

The chapters dedicated to airway management and lung-expansion devices include some of the newer technology for the critically ill patient. I found the newly added section on adjuncts to endotracheal intubation fascinating, and the American Society for Anesthesiologist's Difficult Airway Algorithm pertinent, as the increase in patients with obstructive sleep apnea—and the link to difficult endotracheal intubation—has now been established. RTs who perform or assist in endotracheal intubation will find this information vital to their practice.

For those interested in the assessment of pulmonary and cardiac function, Chapters 8 and 9 provide a great overview of pulmonary function testing and hemodynamic monitoring equipment. For those responsible for overseeing the pulmonary function testing laboratory, the updated recommendations from the American Thoracic Soci-

ety and European Respiratory Society on standardized lung function testing will prove useful for quality-control initiatives. The chapter on cardiovascular diagnostic testing provides a basic overview of cardiac electrical activity and measurement of function, but I was disappointed at the absence of newer minimally invasive cardiac output monitoring systems.

The next few chapters are dedicated to blood gas monitoring and mechanical ventilation. The chapter on blood gas monitoring is virtually unchanged from the 7th edition, yet provides a good review of the intricacies of arterial blood gas analysis, both invasive and noninvasive. As a respiratory care manager who feels that the art of managing mechanical ventilators requires well educated, astute RTs, I think the chapters covering modes and devices for adult, pediatric, and neonatal intensive care applications are a necessary read for all clinicians. As mechanical ventilators become more sophisticated and industry trademarked modes muddy the waters, Chatburn's classification of ventilation modes is a great addition to the 8th edition and helpful to those just learning the finer points of mechanical ventilation. While I found the table titled "Common Modes on Five ICU Ventilators Used in the United States" quite helpful, I also found the landscape orientation quite cumbersome. In short, the chapters addressing mechanical ventilators are updated to include newer equipment for neonates through adults in both critical care and home care settings, leading readers to certainly find something to their liking.

The concluding chapter on sleep diagnostics provides a brief overview of normal sleep patterns, polysomnography, and the pathophysiology of sleep apnea. As this is a growing specialty within the respiratory care world, I suspect this chapter will grow in future editions, to include additional health concerns associated with sleep disorders.

New to the 8th edition of **Mosby's Respiratory Care Equipment** is the workbook, by Karpel. At 336 pages, the workbook adds an exciting way for readers to apply the knowledge contained in **Mosby's Respiratory Care Equipment**, with crossword puzzles, helpful Web sites, and National Board for Respiratory Care type questions that correspond to the 15 chapters of the main text. I believe the textbook will help individuals entering the exciting profession of respiratory care to learn about the

equipment essential to who we are as professionals.

I found the 8th edition of **Mosby's Respiratory Care Equipment** and the **Workbook** to be well written and updated to include newer devices in the ever-changing health-care industry. While the 8th greatly resembles the 7th edition, the changes implemented by Cairo and Pilbeam this time around are surely worth investigating if one wishes to stay abreast of respiratory care technology.

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The author has disclosed no conflicts of interest.

The Little ICU Book of Facts and Formulas. Paul L Marino MD PhD, with contributions from Kenneth M Sutin MD. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins. 2009. Soft cover, illustrated, 781 pages, \$48.95.

The Little ICU Book of Facts and Formulas, at 781 pages, "is a smaller, more condensed version of its older sibling, *The ICU Book*, and is intended as a compact reference for the bedside." It measures roughly $10 \times 18 \times 2$ cm and will fit into a lab coat, but not easily into a pants pocket. It is divided into 15 sections and 46 chapters. There are 3 appendixes: units and conversions; selected reference ranges; and additional formulas. The book "is intended to be a compact reference for the bedside."

As a condensation of a standard-size textbook in critical care, it appears to be intended for all members of the critical care team. Its main utility to respiratory therapists (RTs), nurses, and other non-physician team members is its compact summary of the relevant topics that come up in the every day care of critically ill patients.

I used this book over a period of 3 months, and compared it to *UpToDate*, a commonly used reference, easily accessed at the bedside hospital information system or on my cellular phone. I also asked a 4th-year medical student and some RTs to review selected topics in the book and to compare the information to the corresponding *UpToDate* material.

I found the topics to be appropriate and well organized. Some subjects, such as pulmonary hypertension and use of intra-abdominal pressure monitoring, are not covered, and the coverage of some others (eg, poisons/toxins) is markedly abbreviated.

In general the covered material was easy to read, which was especially useful when historically difficult physiological concepts for new students were discussed. My favorite chapters, in this regard, were those on acid-base disorders and renal and electrolyte disorders, which were excellent, concise, and clinically useful reviews that my senior medical student found easier to understand and use than the same topics in *UpToDate*.

My favorite section was the one on disorders of circulatory flow.

I was somewhat frustrated with some of the individual chapters, either because of lack of inclusion of pertinent clinically useful material, or for summary opinions that seemed unjustified. For example, the chapter on systemic oxygenation was very well written, with a clear description of the derivation and physiologic importance of the oxygen-extraction ratio and its relation to the mixed venous oxygen saturation. There was no reference to the now widely used application of this concept with the central-venous-oximetry measurement (S_{cvO_2}) (eg, with the PreSep triple-lumen catheter, Edwards, Irvine, California) in the management of sepsis, using the central-venous-oximetry signal as an index of resuscitation.

Further on in the book, the chapter on inflammation and infection in the intensive care unit describes the "early goal-directed therapy" protocol, which directs efforts to achieve a normal S_{cvO_2} and therefore a normal oxygen-extraction ratio ($> 70\%$) with intravenous fluids, vasopressors, inotropes, and blood if necessary. After describing the Severe Sepsis Bundle, the author makes the astonishing assertion that "optimizing oxygen transport variables is not recommended." This is completely contradictory. In the face of high metabolic demand and increased oxygen consumption, the only way to decrease oxygen extraction ($S_{cvO_2} > 70\%$) is to optimize oxygen delivery to meet the demand.

The chapters that may be of greatest interest to RTs, "Modes of Positive-Pressure Breathing," "The Ventilator Dependent Patient," "Discontinuing Mechanical Ventilation," and "Analgesia and Sedation," are also of mixed quality. The chapter on ventilation

modes is very short and incomplete. Some of the author's opinions are parochial and not supported by current literature. For instance, he states that intermittent mandatory ventilation should be used only in patients who are rapid breathers at risk of air trapping, and should never be used for weaning; and that continuous positive airway pressure should primarily be used in non-intubated patients with acute lung injury, cardiogenic pulmonary edema, and sleep apnea. I also disagreed with his statements on the indications for, levels of, and adverse effects of positive end-expiratory pressure. Airway pressure-release ventilation and other less commonly used ventilatory techniques are not discussed.

The chapter on acute respiratory distress syndrome needs to be updated to include more recent information.

The section on pneumothorax describes the 3-bottle chest-drainage system, which I haven't seen in years. It would have been valuable to discuss how that system transformed into the disposable systems we use today.

The chapter on discontinuing mechanical ventilation is up to date.

The section on anesthesia is a good review of sedative agents and their potential adverse effects, but the discussion on propofol and dexmedetomidine is dated and asserts that they should be used for only 24 hours. There is no discussion of intensive-care-unit delirium in that chapter, but it is covered in the chapter "Disorders of Mentation."

Did this book meet its stated goal as a compact reference for the bedside? With computerized access to nearly unlimited information at the bedside and via handheld computer, most printed documents become out of date very soon after they are printed—some before they are printed. As a comparison, *UpToDate* is more timely with its capacity to update frequently, with nearly unlimited space for additions and references as new information becomes available. However, as a concise, clearly written review of critical care topics, I think this book has a niche.

My medical student found **The Little ICU Book of Facts and Formulas** easier to read and understand than *UpToDate* in several topics and decided to purchase the book. The RT may not find the section on mechanical ventilation comprehensive or timely, but may find the other sections offer a short concise review of topics that come up frequently in intensive-care patients. Nurses, house staff, and other members of the critical care team may find the book valuable for quick reviews, which can then lead to further, more detailed reading.

I use my copy as a teaching tool and loan it out frequently to members of our critical care team to supplement discussions that come up on multidisciplinary rounds. I appreciate Marino's efforts to provide brief reviews, and I understand the compromises that must be made to limit the size of the chapters.

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The author has disclosed no conflicts of interest.