Letters to the Editor

Infection Control and Emergency Care

To the Editor:

As author of *Infectious Disease Handbook for Emergency Care Personnel I* would like to comment on the review published in the May issue. Reviewing works published is a difficult task and often in the process one can lose sight of important factors (eg, intended audience focus and date of publication).

It would be wonderful if books submitted for publication could be out within the year they are written; unfortunately, such is not the case. This work was written in 1985, submitted for publication in January, 1986, and released in print in January, 1987. Thus, some of the material is "outdated." I am the first to admit that. However, "outdated" is very different from "inaccurate," the term used by the reviewers.

In addition, it should be noted that emergency medical personnel do not have training in infectious diseases or in infection control. This work was designed to be a quick, simple reference manual, not a text, and this is stated in the preface. Emergency personnel *do not* know a patient diagnosis at the time they render care; therefore, many hospital-oriented guidelines cannot be directly applied to this work situation. For example, the reviewers addressed protective attire for rabies, which would be impractical in an emergency situation. Personnel would not have a diagnosis unless the patient was a hospital transfer, in which case protective attire could be used. For field care, guidelines must be modified and be symptom related, not diagnosis related.

Emergency medical personnel are also, in many instances, firefighters. Therefore, they are fire rescuers, and hence, pre-employment physicals include chest film. Based on exposure to smoke, they are followed yearly in most cases. This is very different than being followed for exposure to TB in the hospital setting.

Information in this book is presented in this manner applicable to the emergency field setting. Handwashing is addressed, and in fact, alternative means for field handwashing are addressed. It is true that information is not given regarding individuals at high risk for TB, but it is not given for individuals at high risk for HIV or hepatitis B. The idea was to avoid stereotyping. Again, personnel are directed to use protective measures based on symptoms presented. It should be noted that all situations address glove usage and handwashing and this was *before* universal precautions were introduced (1985-1986).

Several chapters that were not commented on offer useful information in 1988. The chapter on hospital, ICP, and emergency medical service interaction is an example. Many states (14) have had to pass legislation requiring hospitals to notify emergency personnel of exposure situations. The communication model offered in this chapter has assisted many areas in addressing this issue. The chapter on cost containment offers some useful information to help hospitals and emergency groups work together in reducing the cost of patient care.

Another part of the review process is to address other groups that might benefit from this work. Infection control practitioners, for example, could gain insight into the concerns and needs of the field care provider.

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To the Editor:

Regarding infection control references for emergency care personnel (book review, May, 1988), readers would be well advised to add to their resources: (1) Benenson AS (ed): *Control of Communicable Diseases in Man.* American Public Health Association, 1985; and (2) the American Academy of Pediatrics *Report of the Committee on Infectious Diseases, 1986 Red Book.*

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APACHE II Update

To the Editor:

This letter is in response to the article "Description of Case-Mix Adjusters by the Severity of Illness Working Group of The Society of Hospital Epidemiologists of America (SHEA)" (July 1988). The professional staff of APACHE Medical Systems, Inc. (AMS) feels that providing comparative information on case-mix adjusters for those interested in utilizing such systems is very useful and we are pleased that SHEA accomplished such a project.

The **intent** of this letter, however, is to both update and clarify the information given on the APACHE II (Acute Physiology and Chronic Health Evaluation) Severity of Illness System so that your readers are not misinformed. Our points will cover two main areas. The first relates to marketing and cost, the second to APACHE II's validated capabilities.

AMS now holds the licensing rights to the APACHE system and represents the service company for the system. The APACHE system and its computer applications are not in the public domain. The software package discussed in the article is no longer available. AMS is currently marketing the APACHE II Comprehensive Evaluation System which includes two software packages, APACHE IIB and APACHE II (version 2.0).

The Comprehensive System is available for a licensing fee of $5,000 for the first year. The APACHE IIB software is the hospital-wide application of the APACHE system. The APACHE

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IIB program currently adjusts severity for four hospital-wide disease categories (pneumonia, CHF, stroke, and acute myocardial infarction). APACHE IIB predicts severity-adjusted risk of death, computes observed mortality rates and predicts hospital length of stay (LOS). The program will compute mortality ratios (observed v predicted) and whether there is a statistically significant difference between them. This software application can be used to respond to the Health Care Financing Administration's (HCFA) annual mortality data releases scheduled for the fall of 1988 and as an *ongoing severity and quality of care measure* for all hospitalized patients. The hospital's data will be included in a national normative data base for all hospitalized patients, which will enable the hospital to compare itself to the national average, as well as other hospitals of similar size and by geographic location.

APACHE II (version 2.0) software provides an in-depth mechanism to evaluate the utilization and quality of care in the intensive care unit (ICU). This software is an upgrade of the original ICU software package and has numerous advanced capabilities. It is available for $975 if purchased separately. Both software programs include user manuals, raw data forms, and access to the AMS professional staf'f via a toll-free number.

Kegarding the system's capabilities: the premise on which the APACHE score is based, as stated in the article, is on objective, *commonly measured* physiologic variables, in addition to chronic health status and age. Although the measurements themselves are not disease-specific, all patients regardless of diagnosis are scored in the same manner. The same APACHE score does not carry the same predicted risk of death across different diseases. Therefore. the predicted risk of death is applicable to all disease and accounts for APACHE's applicability to all hospitalized patients.

Initial validation of APACHE II in hospitalized patients has been completed. The Rand Corporation used APACHE II to accurately risk stratify hospitalized patients in certain disease categories (N *Engl J Med*, 1987; 317: 1674-1680). HCFA collected admission APACHE data in establishing their national data base for the severity-adjusted rnortality methodology. In these studies, APACHE data was easily and reliably collected with relatively few missing values. With APACHE IIB, AMS will establish a national normative data base, expanding the number of disease categories, using both Medicare and non-Medicare patients.

APACHE is also a valid measure of efficacy and efficiency of care. Because APACHE provides an accurate measure of pretreatment risk of death, the prediction of outcome can be used to evaluate efficacy of subsequent therapy received. The monitoring of physiologic changes over time can track morbidity, therefore, the effects of the implementtion of treatment regimens can be assessed. In addition, APACHE can be used among hospitalized and ICU patients to predict length of stay while controlling for patient outcome, which is a true measure of efficiency.

I hope I have clarified some of the capabilities of the APACHE system along with its applications and availability. It is requested that all inquires be directed to the address provided below and not to the office at George Washington University. We would be happy to answer any questions. Thank you for the opportunity to update your. readers.

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Correction

The extended abstract entitled "Perinatal Testing: Issues and Objectives" by Anne Willoughby, MD, MPH, which appeared in the August issue of the journal contains an error. In the table, the column labeled "No. Positive per 100" should read "No. Positive per 1,000." The author regrets the error.

Letters to the Editor should be addressed to INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY Editorial Offices, C41 General Hospital, University of Iowa Hospitals and Clinics, Iowa City, IA 52242. All letters must be typed, double spaced, and may not exceed four pages nor include more than one figure or table. The editors reserve the right to edit for purposes of clarity or brevity.

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