

Case Study #12:

Assessing Selected Respiratory Therapy Modalities: Trends and Relative Costs in the Washington, D. C., Area

Richard M. Scheffler, Ph.D.
Visiting Associate Professor of Health Economics
School of Public Health
University of California, Berkeley

Morgan Delaney, M.D.
Assistant Professor of Medicine
Department of Medicine
George Washington University Hospital
Washington, D.C.

INTRODUCTION

There are data that suggest that some 25 to 30 percent of all patients admitted to hospitals in the 1970's received respiratory therapy.¹ Intermittent positive pressure breathing (IPPB)—the active inflation of the lungs during inspiration under positive pressure from a cycling valve—was delivered to more than one-fourth of these patients, making IPPB the single largest respiratory treatment modality (method of therapy) (16).² Utilization of respiratory therapy in U.S. hospitals has been estimated to have cost about \$700 million in 1975, or more than \$1 billion in 1979 dollars (16).³

A lay person's definition of the term respiratory therapy is presented in the next part of this case study. Following that is a description

of how the delivery of respiratory therapy is currently organized in the hospital sector. Next is presented a brief overview of selected respiratory therapy modalities, including an assessment, drawn from the available medical and scientific literature, of what is known about the efficacy or effectiveness of various respiratory therapy procedures.⁴ These procedures are divided into four basic categories: 1) oxygen therapy, 2) aerosol therapy, 3) physical therapy, and 4) mechanical aids to lung inflation.

The descriptive material presented in this case study is not a totally exhaustive or definitive review of the literature. Certain topics are discussed in detail, while others are mentioned only briefly. Special attention is paid to IPPB, both because it is one of the most frequently per-

¹According to Louise Russell (31), this compares to about 10 percent of all hospital admissions in 1961-62 and 19 percent in 1966-67.

²From a national sample of 750 U.S. non-Federal short-term hospitals, about 8 percent of all hospital admissions received IPPB (13).

³The \$1 billion estimates assumes the 1975 estimate made by Russell (16) and adjusts it only for the average increase in medical care prices over the 1975-79 period of about 45 percent.

⁴We use the OTA definitions (28) of "efficacy" and "effectiveness." Efficacy: The probability of benefit to individuals in a defined population from a medical technology applied for a given medical problem under ideal conditions of use. Effectiveness. Same as efficacy except that it refers to . . . average conditions of use.