DRG'S: Effects on Clinical Experiences of Respiratory Therapy Programs

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DRG'S: EFFECTS ON CLINICAL EXPERIENCES OF RESPIRATORY THERAPY PROGRAMS

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Abstract: Critical incidents were collected from respiratory therapy students to determine essential behaviors for respiratory therapists and how and where those behaviors could be learned best in view of new health insurance restrictions and changes in medical practice patterns. Students were asked to select the setting(s) in which those behaviors could be mastered. Of the 145 incidents, 21 required mastery in the clinical setting only, although 84 required a combination of settings, simulation/clinical, laboratory/clinical, or all settings. The incidents were sorted by category and setting as a means of improving respiratory therapy curriculum and to insure that vital clinical experiences are accomplished within the clinical setting thus preparing graduates to be effective practitioners.

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DRG'S: Effects on Clinical

Diagnosis related groupings, DRG'S, are a type of prospective payment system in which the hospital is paid a specified rate for each case covered by Medicare. The rate, with some adjustment for regional differences and unusual cases, is based upon the admitting diagnosis and related medical and surgical procedures. According to experts in the field, the heightened emphasis on cost will result in more acutely ill patients who need a more intense level of care and a management environment that requires much greater efficiency and effectiveness. The health insurance restrictions as well as new medical practice patterns dictate that individuals obtain maximum care in doctors' offices and outpatient surgery centers, where the cost is lower, and a minimum of care in hospitals, where it ia more costly.

The effects of medical practice patterns and health insurance restrictions may affect the quantity and variety of clinical experiences for programs in health occupations education. Hospitals, both large and small, are an important component of clinical experiences for these programs. With limited resources, namely patients in hospitals or acute care settings, several questions are raised:

1. What can we do for health occupation education students to fulfill the clinical components of their respective programs?

2, What clinical experiences would be vital and therefore have to be accomplished within the acute care setting?

3. What experiences could be accomplished with simulations or within the laboratory setting, thus freeing up hospitals for those clinical experiences that cannot be obtained in other ways?

4. How can we determine which experiences would be vital to graduates of health occupations education programs?

These questions became the basis for a pilot study of one health occupations education program, Respiratory Therapy.

Conceptual Framework

In order to determine first what are the experiences of the student in the clinical area, and second, where can the behaviors derived from the experiences be mastered, it was determined that the critical incident technique can be utilized effectively as a job analysis procedure. The critical incident technique evolved through the efforts of John C. Flanagan and his associates while working in the aviation psychology program of the United States Army during World War II. It was not until after the Second World War that the technique was developed formally and given its present name. After the war, Flanagan and a few associates established the American Institute for Research in Pittsburgh. It was through the work of the Institute as well as the work of advanced graduate students at the University of Pittsburgh, that the technique was adapted to a variety of new situations (Flanagan, 1954).

The critical incident technique has been used by numerous researchers in a variety of applications in business, industry, and education. In health related fields, it has been applied to student performance (Herzberg, Inkley, and Adams, 1960); nursing instructor effectiveness behaviors (Barham, 1965); nursing evaluation (Fivars and Gosnell, 1966); and continuing education (Smith, Smith, and Ross, 1982).

The critical incident technique is used for collecting incidents having special significance and meeting systematically defined criteria. Essentially there are five steps: (a) determine the aim of the activity, (b) develop plans and specifications for collecting factual incidents, (c) collect data,

(d) analyze data, and (e) interpret and report the data (Flanagan, 1954). These steps were used in a pilot study of Respiratory Therapy. Using this technique to determine experiences and settings does not violate health insurance restrictions. Thus, applications of effective medical practices to critical medical incidents in their education should promote respiratory therapy students' performance after graduation. Information from this study may contribute to a more viable restructured curriculum.

Methodology

Subjects for the pilot study included all (20) second year respiratory therapy students at one community college who volunteered to participate in the collection of incidents. The general aim was to determine the essential behaviors of respiratory therapists and how and where those behaviors could be learned best in view of the increased acuity of patient care and the expected decrease in patient census in hospitals. Subjects were asked three questions: (a) What was the situation? (b) What did you do? and (c) What was the result? In addition, the subjects were asked to state where the behavior could be learned. Specifically, they were asked

1. Could this behavior be mastered in only one setting? If yes, which one: simulation, laboratory, or clinical setting, or

2. Is it necessary to master this behavior in a combination of settings? If yes, which combination: simulation and laboratory, simulation and clinical, laboratory and clinical, or all settings (Simulation was defined as the application of knowledge and skills to a specific client based on a clinical judgment of the client's needs; laboratory was defined as a practice setting in the school or hospital without client contact). Written examples were given to the students. One example is reiterated here.

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What was the situation:

A baby extubated herself and I needed to aet up an oxygen hood.

What did you do:

I gathered the equipment I needed and assembled the hood with minimal assistance. It was the first time I had assembled a hood. After the hood was in place, I analyzed the hood for oxygen concentration.

What was the result:

The hood analyzed appropriately. The blood gases and clinical picture of the infant deteriorated over the next few hours and the baby was reintubated and put back on the ventilator.

Where could this behavior be mastered:

	Yes	No
A simulation setting only.		X
A laboratory setting only.		X
A clinical setting only.		X

Is it necessary to master this behavior in a combination of settings? If yes, check what combination you would suggest:

Simulation and laboratory settings.		X
Simulation and clinical settings.		X
Laboratory and clinical settings.	X	
All settings.		X

Critical incidents were collected from respiratory therapy students over a two month period from March 10 to May 10. After the incidents were collected, the incidents were sorted into six categories by a research assistant, a practicing respiratory therapist employed at a large university teaching hospital. These categories were:

1. Ventilator Management - incidents related to ventilator care such as parameter changes, ventilator set-ups, circuit changes, and trouble shooting.

2. Oxygen Therapy - incidents related to oxygen delivery such as set-ups, analyzing oxygen, and trouble shooting.

3. Communication Skills - incidents related to oral and written communication and teaching.

4. Treatment Modalities - incidents related to treatments such as aerosol, delivering medications, chest physiotherapy, weaning parameters, and blood gases.

5. Equipment Maintenance - incidents related to the maintenance of equipment.

6. Other - incidents were not related to the above categories.

The incidents were entered on a computer using the PC-File III, a general purpose data base manager program. After the incidents were entered on the computer, copies of the incidents were printed without specifying the practice settings. Four practicing respiratory therapists, with 45 years of combined occupational experience, arranged the incidents according to setting (e.g. where those behaviors could be mastered). There was agreement with 141 (97%) of the 145 incidents according to setting between practicing respiratory therapists and respiratory therapy students This served to validate where the behaviors could be learned best.

Results

Table 1 shows the number of critical incidents in relation to category and setting. Of the 145 recorded incidents, 40 incidents could be learned best in the laboratory setting. No incidents could be mastered from the communication skills category in the laboratory setting and only one incident from the

Table 1

Numbers of Critical Incidents in Relation to Category and Setting

Category	Setting					
	Laboratory	Clinical	Laboratory/Clinical	Simulation/Clinical	All Settings	Total by Category
1. Ventilator Managment	11	4	16	2	7	40
2. Oxygen Therapy	1	5	4	1	0	11
3. Communication Skills	0	2	3	4	0	9
4. Treatment Modalities	8	5	25	3	5	46
5. Equipment Maintenance	9	0	0	0	0	9
6. Other	11	5	10	0	4	30
Total by Setting	40	21	58	10	16	145

oxygen therapy category. No incidents could be mastered in the simulation setting only. Twenty-one incidents required the clinical setting only with no incidents listed under the equipment maintenance category. Fifty-eight incidents could be learned best in a combination of laboratory/clinical settings with no incidents listed under the equipment maintenance category.

Ten incidents could be mastered in a combination of simulation/clinical settings with no incidents listed in the equipment maintenance or other categories. Sixteen incidents were listed for mastery in all settings with no incidents listed in the oxygen therapy and communication skills categories.

Summary

The data revealed that 68 percent of the incidents in ventilator management and 72 percent of the treatment modalities could be mastered in the laboratory and laboratory/clinical settings. Eighty-two percent of the incidents in oxygen therapy could be mastered in the laboratory/clinical and clinical settings. All incidents in equipment maintenance could be mastered in the laboratory setting whereas all communication skill incidents would require the combination of simulation, laboratory, and clinical settings.

Data from this study were shared with community college faculty responsible for the respiratory therapy program. The faculty confirmed that the incidents listed in the table were close in number and category to the planned distribution of clinical experiences which serves as a validation of the sample. Three areas for curriculum revision were suggested by the faculty:

1. The low number of communication skill incidents demonstrated the need to provide more opportunities in this category.

2. The critical incidents listed under laboratory and laboratory/clinical settings should be used as a guide for developing additional laboratory exercises.

3. Additional curriculum revision should be centered on the need for formal seminar time to be included at the end of each clinical day. Opportunities to discuss these critical incidents closer to the time of occurrence should increase the knowledge and understanding of all students.

The data provide important information for decision making in curriculum revision based on changes in medical practice patterns and health insurance restrictions. All categories except communication skills have incidents that can be mastered in the laboratory setting. More effective use of simulations may provide students with the knowledge and skills required for clinical judgments. More effective use of the laboratory and simulations can provide additional time in the clinical setting for those experiences which are vital to ensure that graduates are safe, effective practitioners.

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