

# Teaching Pharmacy Students to Write in the Medical Record

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To practice pharmaceutical care, pharmacists will need to communicate and document their recommendations in the medical record. We incorporated instruction on the principles of chart documentation into an elective on primary care therapeutics. Students developed a patient specific care plan and wrote a "chart note" to document their assessment and recommendations. Performance criteria for notes were developed for formative and summative assessments. The notes were useful in assessing students' understanding of therapeutic principles and introducing the concepts and importance of chart documentation, but additional practice would be necessary to achieve a "chart-ready" note. Developing this ability is a complex process, requiring instruction, opportunities to practice, constructive feedback, opportunities for revision and an appreciation for the its importance. Pharmacy curricula should include an organized, uniform and efficient method of teaching professional documentation.

## INTRODUCTION

The academic pharmacy community, and more recently the public and private sector are encouraging pharmacists in varied practice settings to become more actively engaged in direct patient care(1-4). To implement pharmaceutical care, in addition to dispensing medications, pharmacists collaborate with all involved health care professionals to provide the best possible patient outcomes for drug therapy(2,3,5). The traditional model of pharmacist/patient and pharmacist/care-giver interaction focused on the verbal communication of pharmacist recommendations regarding drug therapy to other health care professionals. However, pharmaceutical care in multi-disciplinary health care environments will require effective written communication as well. It is important for pharmacist recommendations to be documented in the patient's medical record for several reasons:

1. The medical record documents what action has been taken or is intended. Nursing and medical care plans are delineated in the medical record, so that all health care professionals involved in the patients' care are aware of these plans and can critique, implement or change them as appropriate. Similarly, if pharmacy is to accept responsibility for drug therapy outcomes, pharmacist activities

should not be limited to isolated interventions. It is logical that there should be a clear, comprehensive pharmaceutical care plan which outlines the goals and rationale, regimen, monitoring parameters and endpoints for drug therapy. The care plan should not be developed and used in isolation by a single pharmacy practitioner, but should be available and visible for other pharmacists, physicians, and nurses to critique and implement.

2. Writing in the medical record increases the visibility of the pharmacist's important role in drug therapy. For pharmaceutical care to be effective, and the role of pharmacists to continue to evolve, it is important that other health professionals (and the lay public) appreciate the contributions pharmacists make to safe and efficacious drug therapy.
3. Part of being a professional is accepting responsibility for one's recommendations. By writing in the patient's medical record, a pharmacist identifies the source of the recommendations and plans and accepts professional responsibility for them.

For pharmacist documentation to be effective, the rationale must be persuasive and recommendations must also be clear and specific enough to be implemented by others if

**Table 1. Catalog information**

TITLE	Primary Care Therapeutics
DESCRIPTION	A team-taught therapeutics course focusing on topics commonly seen in the primary care setting.
CREDIT	2 Semester hours
CLASS SIZE	15 students maximum
DESIGNATION	Professional elective
PREREQUISITES	Clinical Therapeutics I (a six semester hour PharmD therapeutics course) Concurrent enrollment in Clinical Therapeutics II (6 semester hours)

accepted. However, most didactic curricula do not formally instruct pharmacy students in the skill of contributing to the permanent written medical record(6).

What instruction, if any, provided in this area occurs most likely one-on-one in the clerkship setting as circumstances arise. Initial instruction in this setting may be confusing for students because it may not be uniform among clerkship sites and preceptors. Students often lack a framework by which to compare and contrast the contextual and site specific differences in documentation. In addition, both the time spent and the emphasis on documentation varies by preceptor. This format is also very labor intensive, because basic principles are presented “one-on-one” versus in a larger group.

Formal training in effectively documenting activities is essential if we expect our graduates to provide pharmaceutical care and to collaborate with other health care providers in optimizing patient outcomes. Students will not adequately develop this written ability without: (i) formal training in how to write in the chart; (ii) opportunities to practice this activity; (iii) feedback to improve note writing skills; and (iv) an appreciation of the importance of this type of professional communication. Such instruction should uniformly and consistently present the basic principles of documentation to novice writers. This instruction should also be integrated into and across the curriculum so that all students have opportunities to develop and practice this ability(7). To be efficient, the general knowledge, skills, and attitudes which constitute the desired ability may be addressed in larger groups in a more structured format. Once the students have a framework of basic knowledge, skills, and attitudes, opportunities to further hone this ability for specific applications and practice settings can be provided individually during clerkship.

This article describes an elective Primary Care Therapeutics course which incorporated chart note writing assignments designed to develop this ability.

#### Selected Course Outcomes

The educational outcomes regarding therapeutics in the course included: (i) evaluating, selecting, modifying and recommending appropriate drug therapy; and (ii) monitoring for expected therapeutic outcomes and potential adverse effects. In addition, writing and professional outcomes were incorporated into the course.

**Writing Outcomes.** The incorporation of formal Writing to Learn (WTL) strategies was designed to achieve two distinct, but related goals. The first goal was to develop the types of higher-order thought processes necessary for effective therapeutic problem solving. Using the SOAP format as the base, these writing activities provide an organized, written frame-

**Table II. Course outline**

Class perio	Topic	Note
1	Introduction to Primary Care	
2	Introduction to chart documentation	group
3	Managing adverse drug reactions	group
4	Monitoring and improving patient compliance	group
5	Drugs in pregnancy and lactation	group
6	Estrogen replacement	individual
7	Diabetic complications I	group
8	Diabetic complications II	individual
9	Contraception/Fertility	individual
10	Smoking cessation I	individual
11	Smoking cessation II	group
12	Health maintenance/immunizations	individual
12	Pediatrics I	individual
13	Pediatrics II	individual
14	Final Exam	

work for therapeutic problem solving. Additionally, because writing is linked closely to learning and critical thinking, the integration of on-going opportunities to write about course material offers students a powerful and contextually relevant learning environment(9,10). As Holiday-Goodman and Lively note, “It is through writing that one solidifies what is learned, and it helps one visualize thought”(11)- Through the integration of chart note writing activities as an on-going part of the course’s structure and instructional content, students were encouraged to summarize, analyze, and articulate their understanding and mastery of specific course content areas resulting from in-class case discussions.

Secondly, we desired to focus student attention and class instruction on helping students develop specific professional writing skills. The class activities provided students with:(i) a professional context which would encourage them to develop their writing skills; and (ii) the instruction and support needed to learn how to write tactful, professional notes acceptable for inclusion in a primary care chart.

**Professional Responsibility Outcomes.** The goal of developing students’ senses of professional responsibility was also linked to the addition of note writing into the course. Our goal was to help students begin to understand and to internalize high and exacting professional expectations for themselves. By learning to document recommendations in the context of a chart note, students were exposed to a different aspect of pharmaceutical care than the sometimes abstract presentation of the concept in their course work. Rather than discussing pharmaceutical care as only a concept, students worked to produce written documents that could pass real-world tests of acceptability. In order for their notes to be deemed acceptable, their assessments of the patient’s drug therapy and recommendations regarding patient care were required to be complete, detailed, and persuasive so as to stand on their own merits. Through the evaluation process, students were held formally accountable for their recommendations. Finally, by the students developing and writing comprehensive chart notes, we hoped to establish the concept of direct pharmacist involvement in primary patient care.

Our goal for this revision of the course was to incorporate formal instruction and opportunities for practicing note writing into an existing Primary Care Therapeutics course in

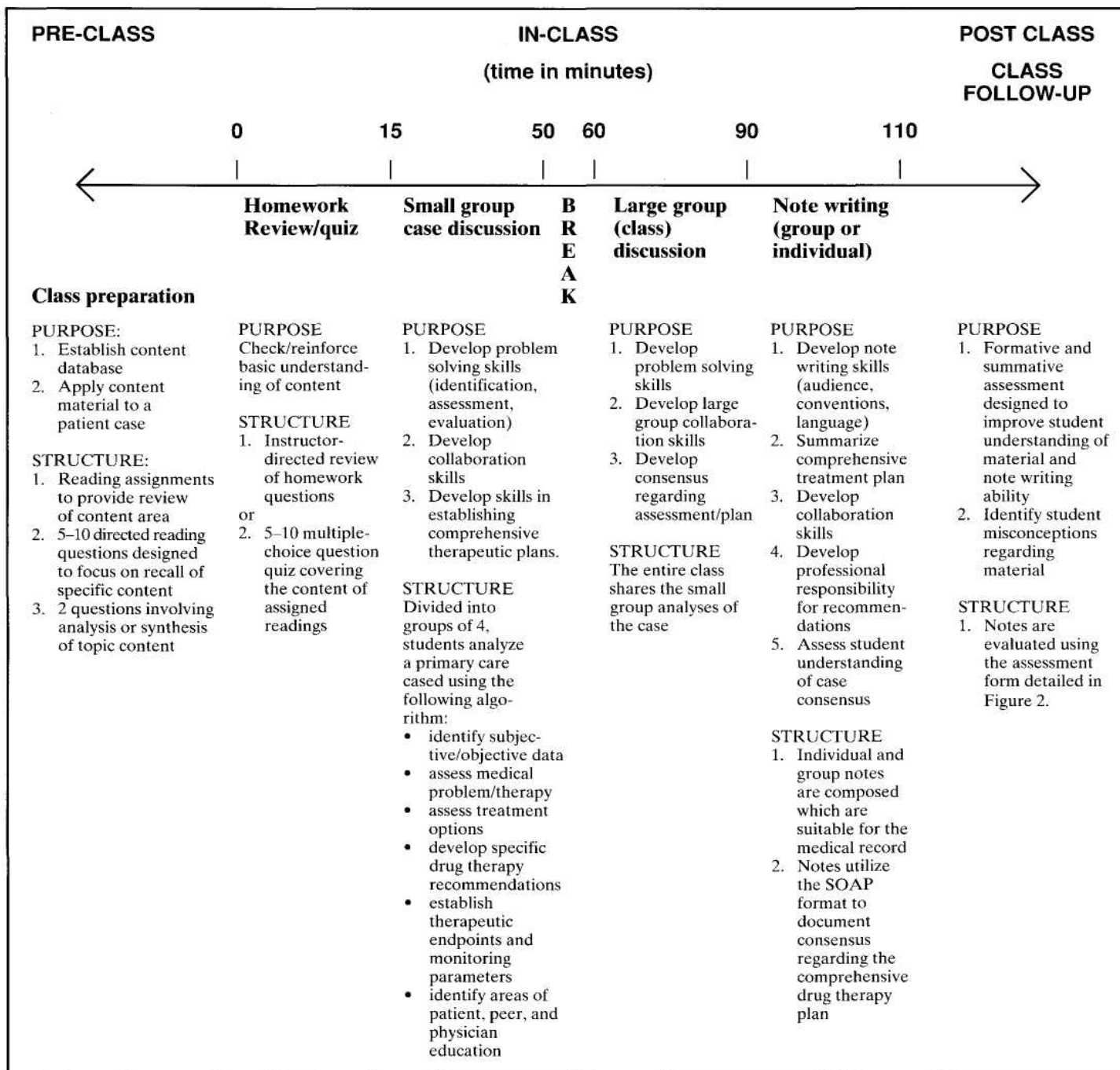


Fig. 1. Class time line which defines the purpose and structure of pre-class, in-class, and post-class activities.

order to achieve three main objectives:

- develop students' professional knowledge of, skills in and attitudes toward professional documentation activities;
- use WTL strategies to teach students therapeutic content, problem solving strategies and the concept of primary care as comprehensive, continuous, first-contact patient care; and
- obtain information through which to continue revising the course to emphasize writing in a more integral manner.

#### COURSE OVERVIEW

Primary Care Therapeutics is a team-taught, professional elective designed for PharmD students in the last semester

of didactic training prior to beginning clerkships. This course uses patient cases which focus on therapeutic problems commonly encountered in the primary care setting to teach students both pharmacotherapy content and the skills and attitudes needed to put that content knowledge into efficacious practice. Table I provides a description of the course and an outline of class topics is detailed in Table II.

After in-class discussion, similar to that done in the clinical setting (*i.e.*, patient care rounds), students write a chart note which documents their assessment and recommendations regarding the patient's therapy. Students' individual and group-generated notes receive both formative (peer) and summative (expert) feedback based upon the following criteria: levels of correctness, completeness, clarity, consistency, conciseness, and professional appearance. A combination of formal instruc-

**INTRODUCTION:** Describes patient demographics, medical problems, and context of patient encounter

**CURRENT MEDICATIONS:** Lists patient's active prescription medications

**PAST MEDICATIONS:** Lists pertinent prior medications used

**NON-PRESCRIPTION MEDICATIONS:** Lists current OTC medication regimens

**ADVERSE DRUG REACTIONS:** Lists pertinent adverse reactions and/or allergies

**MEDICAL PROBLEMS:** Each medical problem is outlined using the SOAP format:

**Subjective:** describes pertinent patient symptoms

**Objective:** describes pertinent physical findings and laboratory data

**Assessment:** evaluation of medical problem, response to therapy, and appropriateness of drug therapy, need for monitoring and/or education

**Plan:** Outlines recommendations for modification of drug therapy, patient monitoring and documents services provided

Fig. 2. Primary care note.

tion of writing chart notes and multiple opportunities to practice was utilized to develop this ability.

The class was structured to promote an active learning environment (Figure 1). Pre-class preparation included directed reading assignments and questions for students to use to self-assess their knowledge of the material prior to class. Homework assignments were developed to assess students' ability to apply basic concepts from the readings. Each class began with either a quiz or a discussion of the homework assignments. Students were then given a patient case to analyze in small (four to five students) groups. In order to teach students a process of case analysis, each week the same standard evaluation questions (12) were used to analyze each case. A general chart note format was developed which would effectively communicate the results of therapeutic problem solving activities to a variety of health professionals (Figure 2). Performance criteria for chart notes were developed and utilized for formative and summative assessments (Figure 3).

#### COURSE EVALUATION

The most successful modifications to the course were the WTL strategies. Although typical case discussions may highlight and discuss many of the major case issues, frequently the instructor is not able to assess whether individual students have integrated those points and can summarize them at the end of the class. We found that the students' notes were very useful from the instructor's perspective in assessing their understanding of the major case issues and whether they could develop a complete and comprehensive therapeutic regimen and monitoring plan. In addition, realizing that they would be writing the note at the end of class, students had additional incentive to remain focused during the class discussion.

The chart notes also provided students with opportunities to practice general writing skills and at the same time introduced the importance of the general structure and legal implications involved in professional documentation. Whether the students developed the desired professional attitudes toward chart documentation was not assessed, because as of yet, we are unsure of how to best evaluate these

1. The note includes all (available, but pertinent) subjective and objective data needed to justify the recommendation.
  2. The note addresses all pertinent problems and the assessment is complete (status/severity, etiology/contributing factors).
  3. The drug therapy recommendations are clear and complete enough to be followed by other health professionals.
  4. The note is consistent. The assessment justifies the plan and plan and assessment are consistent with patient data.
  5. **Overall assessment.** Includes all of the above. In addition, the notes are clear, concise, legible, well-organized, correct and professional. **(Circle one)**
- 1= 30% poor 2=60% needs work 3=75% acceptable  
4=90% good 5=100%excellent

Fig. 3. Chart note performance criteria.

attitudes. As we continue to implement an ability based educational model, it will be very important to develop such assessment tools.

Another goal was to provide students with a more realistic model of primary care, in which the students would evaluate the entire list of patient problems, rather than isolating specific disease states for discussion. Whether this modification of the course corresponded to a better appreciation for the role of primary care was not assessed. Faculty were in agreement however, that this aspect needs to be stressed on an ongoing basis throughout the semester and that this is another area which needs to be assessed in the future.

In other areas, the class was less successful. The goal of "chart-ready" notes was not achieved. The goal of concise yet comprehensive notes proved to be too ambitious for novice professional writers. The vehicle which was most useful in terms of assessing the students' understanding of the case, was too lengthy to be suitable for a patient's chart.

In addition, the goal of "chart ready" notes was more complex because this was a team taught course. Since this was also an introductory course to professional documentation, a standard note format would be most useful and least confusing to the students. However, the optimal format for chart notes would vary in different situations and practice settings. Each faculty member presented a different perspective on the optimal format based on their practice setting. In addition, course faculty expressed concerns that the incorporation of note writing sacrificed pharmacotherapeutic content. These issues were important for participating faculty to discuss in order to develop a consensus.

Although the case analysis questions had been utilized in another course(12), the students taking the Primary Care elective had not used them before. The students had been exposed to the SOAP format, but were more accustomed to case analysis using a more directed method. As a result, the small group discussions were neither efficient enough to complete all aspects of the case in the time allowed nor focused enough to develop specific recommendations. Therefore, it was also difficult for the large group discussion to cover all of the therapeutic implications of the case in the time allotted. This limitation placed severe time restrictions on the time available to students to write their notes at the end of class. More time was necessary for novice writers to be complete, yet concise, and professionally correct.

## FUTURE DIRECTIONS

The chart note format may need to be revised to balance: (i) comprehensiveness of notes to promote the concept of primary care and pharmacist responsibility for complete drug therapy plans; (ii) explanations of rationale and plan to document student understanding of case analysis and plan; and (iii) conciseness and suitability for the patient record. In fact, these may be mutually exclusive goals. Utilizing a comprehensive pharmaceutical care plan and a separate, briefer chart note may alternatively meet all three goals.

More than one class period may be necessary to introduce general note writing concepts. In addition, adequate time and opportunities (inside or outside of class) need to be provided for novice writers to edit and revise several note drafts. This is especially important early in the learning process. The next time the course is taught, the students will write their note after class, so that there will not be the pressure to complete the note in a limited time frame.

The class format needs to more effectively balance pharmacotherapy content and note writing skills development. As the course continues to evolve, further discussion among faculty is necessary to clarify course goals, the rationale for class structure and the format for the chart note.

Students needed more instruction in general case analysis to make the transition from reaction to instructor questions to independent analysis and assessment of clinical situations. This should not be an issue in the future, since this has been incorporated into the required therapeutic sequence and all students will be using a similar case approach for two semesters prior to this elective. Also, having each small group present one of the problems to the rest of the class may provide more focus to both the small groups' preparation and the large group discussion.

Development of assessment tools remains a priority. A list of performance criteria for the chart note are being developed, so that students may better assess their own progress. Effective assessment tools to evaluate student attitudes toward professional writing and primary care must also be created.

Although this course was originally designed for PharmD students, changes in our curriculum have allowed us to broaden enrollment. The required therapeutics sequence now provides 10 semester hours for baccalaureate students and an additional six semester hours for PharmD students over 3-4 semesters. This course is now offered concurrently with the third semester of therapeutics and is open to students in either degree program.

## CONCLUSIONS

At first glance, the act of crafting an effective and efficient chart note may not appear difficult to experienced pharmacists for whom this is a routine task. The apparent simplicity of the task, however, highlights the gulf that exists between the abilities of a novice and an expert in any area of professional practice. Experts enjoy the benefit of experience, practice, and diverse forms of feedback through which they have developed and continue to hone their written communication abilities. Most novice pharmacists do not share these resources, yet they are expected to arrive at the practice site able to perform capably in this ability area. Writing skills, like clinical assessment skills, are not easily acquired; it is a difficult and complex process. In addition, while pharmacy students are generally not comfortable with either form of communication, the value of verbal communication skills appears more readily accepted as an important professional ability.

Communication processes are not simple, clear cut systems, so preparing students to meet this professional reality is challenging. Verbal communication requires the speaker to assess and adapt to numerous forces (tone, body language, words). However, the speaker has access to immediate feedback in the form of audience response, context, and verbal and nonverbal cues. Writers, on the other hand, rarely have the luxury of receiving constant and immediate feedback by which to adjust their efforts. Over and above the complexities of the writing process itself, professional documentation is extremely intricate: it is context dependent; audience dependent; serves a number of purposes, and utilizes a highly truncated, specialized and ritualized structure and vocabulary.

Most pharmacy students recognize the SOAP process as a format for professional communication. As professionals in training, however, they must move beyond this rudimentary stage to utilize the SOAP process as a powerful, problem-solving tool and a means to document their recommendations and supporting rationale. While other formats may adequately serve the same purpose, the SOAP format is utilized as the predominant means of inter-professional communication.

Teaching pharmacy students the principles of chart documentation is an important, but complex task and should be incorporated into the required pharmacy curriculum. Students may need instruction and practice of this ability in more than one course to achieve "chart-ready" documentation. Incorporation of note writing into pharmacotherapy courses may not improve student knowledge of course content, but does provide faculty with an additional way to assess student understanding of case discussions.

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