



The role of progress notes in the professional socialization of medical residents

Pamela Hobbs

University of California, Los Angeles, Los Angeles, CA USA

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Abstract

This paper examines the role of physicians' progress notes in the professional socialization of medical residents. As a component of their specialty training, residents are principally responsible for making the physician entries in the medical charts of the patients who are under the joint care of the residents and the hospital's medical staff. This includes the initial physician chart entry, the comprehensive 'admit note' which records the initial assessment of the patient upon presentation for medical care. Admit notes, which complement the oral case presentations that they reproduce, constitute a key training tool by means of which residents experience and internalize the cognitive processes which constitute medical reasoning and analysis. However, although a number of researchers have examined residents' oral case presentations, their written communications have seldom been studied. This paper examines the generic conventions that structure residents' admit notes, including abbreviations, telegraphic syntax, the 'SOAP' format, and reliance on background knowledge. Through the analysis of an admit note written by a first-year obstetrical resident, this paper demonstrates how the ability to operate these conventions evidences both the resident's professional socialization and the growth of his or her clinical judgment.

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1. Introduction

Medical knowledge is circulated through language, and it is largely through language that the work of medicine is carried out (Atkinson, 1999: 77, 104). However, sociolinguistic research has rarely addressed the question of how medical knowledge is constituted (Sarangi and Roberts, 1999: 22). As a result, although a number of ethnographic studies have

E-mail address: p37954@earthlink.net (P. Hobbs).

explored the professional socialization of medical residents (see, e.g., Pettinari, 1988; Hunter, 1991; Atkinson, 1995; Cicourel, 1999; Erickson, 1999), the linguistic processes by which medical judgment is developed and exercised have rarely been subjected to fine-grained analysis (but see Pettinari, 1988). Moreover, because sociolinguistic studies of medical discourse have overwhelmingly focused on physician–patient interactions (see, e.g., Bryne and Long, 1976; Fisher and Todd, 1983; Mishler, 1984; Heath, 1992; Maynard, 1992; Roter and Hall, 1992; Heritage and Maynard, *in press*; Peräkylä, 1998; West, 1998a,b, 1984;), oral physician–patient communications are over-represented in the literature, while physician–physician communications, including the medical record itself, have been largely ignored (but see Hobbs, 2003, 2002; Atkinson, 1999; Cicourel, 1999, 1983; Erickson, 1999; Anspach, 1988; Rees, 1981).

This paper examines the role of physicians' progress notes in the professional socialization of medical residents. These notes, which complement the oral case presentations that they reproduce, constitute a key training tool by means of which residents experience and internalize the cognitive processes which constitute medical reasoning and analysis, through the application of general principles to specific individual cases. They thus represent the record of the resident's acquisition and exercise of clinical judgment.

2. Background

Medical interactions are shaped by the context in which they occur (Anspach, 1988: 358); thus, an understanding of residents' progress notes must begin in the hospital itself. Residency training takes place in university-affiliated teaching hospitals, which are characterized by their dual focus on patient care and physician training and are thus referred to as academic medical centers. My own socialization into the discourse of medicine occurred at one such center between March 1993 and December 1995. At that time, I was a lawyer employed by a law firm located in the Midwestern United States and specializing in the defense of medical malpractice cases. In 1993, I became one of the senior members of the practice group responsible, on behalf of an urban teaching hospital which is one of the largest obstetrical centers in the United States, for the handling of cases alleging obstetrical malpractice. As such, I was expected to acquire an understanding of the principles of obstetrics as they apply to the management of high-risk pregnancies, which would allow me to become actively engaged in the complex medical issues that are central to the defense of these cases.

Abruptly thrust into a clinical setting to which I had no prior exposure, and forced from the outset to grapple with the difficult cases that are selected for litigation, I learned to read and interpret medical records and fetal monitor strips, identify and analyze the medical issues raised by the data and information recorded, and discuss and critique the patient's medical management, clinical course, and outcome with the members of the hospital's obstetrical staff from an informed insider's perspective. This total-immersion trial by fire was an experience that was in many ways analogous to that of a first-year obstetrical resident as, guided by the doctors who were my clients, I learned, tentatively at first, and then more confidently, to isolate and extract, from the often confusing or incomplete evidence presented by the patient's narrative account and recorded clinical signs, the data

that corresponded to recognized medical principles. Thus, situated within the peer culture of academic medicine, I was offered the unparalleled opportunity, not only to *observe*, but to actually *experience* the medical life world in a way that is ordinarily not open to members of the lay public, and to witness in myself the transformation in attitudes towards illness, health care, and people that medical education and, in particular, clinical training and experience, bring (Beckman, 1983: xi). That experience informs this study.

3. The obstetrical resident

The word *obstetrics* is derived from the Latin *obstetrix*, meaning *midwife*, and is thought to be related to the verb *obstare*, ‘to stand by or in front of,’ referring to the position of the midwife at the time of delivery (Cunningham et al., 1997: 1). The medical specialty of obstetrics deals with the care and treatment of pregnant women during the prenatal, perinatal (labor and delivery), and postpartum (immediate post-delivery) periods. An obstetrician treating a pregnant patient faces a medically unique situation, since he or she is responsible for treating two patients (mother and fetus) who are in a symbiotic relationship with one another, and for promoting the well-being of both.

In order to claim the title of obstetrician, a physician must complete a residency in the combined specialty of obstetrics and gynecology, and pass comprehensive written and oral examinations in order to become ‘board certified’ in the specialty (American Board of Obstetrics and Gynecology, 2001: 4610). The residency program in obstetrics provides hands-on clinical training in the care and treatment of pregnant patients and their fetuses which is designed to develop the technical and analytic skills necessary to the practice of this demanding specialty. It consists of four years of in-hospital training after graduation from medical school, during the course of which residents assume increasing responsibilities for patient care. The training provided by residency programs is the opportunity to engage in actual patient care in a supervised setting, and thus to acquire the clinical experience that is an essential component of medical knowledge (see, e.g., Atkinson, 1977: 100–101). Within the hierarchical structure of the residency program, the more junior residents are supervised by their seniors, and all are supervised by members of the obstetrical staff, board-certified obstetricians who are referred to as attending physicians or ‘attendings.’ Supervision in the clinical setting of the obstetrical unit does not consist of continuous direct oversight, but of routines of formal and informal interactions in which medical knowledge is circulated and transmitted through the medium of collegial talk (Atkinson, 1999: 77, 104). Foremost among these routine interactions is the ritual performance of the case presentation.

4. Presenting the case

The case presentation is “a fundamental ritual of academic medicine” (Hunter, 1991: 51), which is performed at morning rounds, the physician’s daily walk through the hospital unit to review each patient’s condition, hospital course, and treatment plan. In a teaching hospital, the resident staff accompany the attending from bedside to bedside, and the residents and attending then meet in conference to discuss each patient’s case

(see Hobbs, 2002: 269; Erickson, 1999: 122). As each patient's name is proffered for discussion, individual residents, who are expected to be familiar with the patients' charts, are called upon to 'present the case'—to articulate an extemporaneous summary and analysis of the medical facts relevant to the diagnosis and treatment of the patient's medical condition—and the attending responds with questions, comments, or criticisms (Erickson, 1999: 122).

The formal structure of the case presentation is instantly recognizable to all members of the medical profession (Hunter, 1991: 6), from its canonical opening, e.g., "Geraldine Cascarino is an 82-year-old lady with a history of coronary artery disease" (Atkinson, 1999: 86), to its prescribed topics, beginning with the 'presenting complaint' (i.e., the complaint that was the reason for the patient's being admitted to the hospital), and continuing in mandatory sequence with a summary of the patient's medical, social, and family history; the results of the physical examination, including vital signs and 'systems review' (i.e., examinations of the head, eyes, ears, nose and throat; chest; abdomen; and extremities); the results of any previous diagnostic procedures; the differential diagnosis or 'clinical impression'; and the treatment plan (Erickson, 1999: 112). This list of topics and their sequential organization embody medicine's investigative pattern, structuring the junior physician's analysis as he or she learns to apply theoretical knowledge to actual cases in the clinical setting (see Hunter, 1991: 55–56). Through the performance of this pedagogical exercise, the resident simultaneously rehearses and internalizes the analytical processes involved in medical diagnosis. As one of the key activities involving "learning how to be a particular type of doctor within the medical hierarchy" (Sarangi and Roberts, 1999: 37), the case presentation is thus central to the professional socialization of medical residents.

5. Residents' progress notes

As a component of their specialty training, residents are principally responsible for writing the treatment notes, known as progress notes, in the charts of the patients under the joint care of the residents and the hospital's medical staff (i.e., the supervising attendings; Hobbs, 2002: 268; Rees, 1981: 56). Progress notes are notes recorded by members of the hospital's medical staff (attendings, residents and, occasionally, medical students), as distinguished from nursing notes, which are recorded in a separate section of the chart (Pettinari, 1988: 13). Progress notes serve a number of related functions. They are, first and foremost, a record of the patient's care and treatment which is immediately available to any member of the treatment team, allowing him or her to review current information about the patient's physiological status, medications, and treatment plan. However, residents' progress notes also serve important pedagogical functions: like the oral case presentation, they are a means both of rehearsing the reasoning and analysis involved in medical decision-making, and of demonstrating those skills to the resident's supervising attending (Hobbs, 2002: 268; Weed, 1969: 11–12). They thus constitute meticulous records of both the patient's and the resident's progress (Hobbs, 2002: 268; Weed, 1969: 11–12; see also Cook-Gumperz and Messerman, 1999: 145).

Ordinarily, the information contained in the resident's oral case presentation is recorded as the 'admit note,' the opening entry in the section of the patient's chart labeled 'progress

notes.’ Accordingly, this note contains the presenting complaint, a summary of the patient’s medical, social, and family history, the results of the physical examination and any previous diagnostic procedures, and the preliminary diagnosis and treatment plan; subsequent notes record the details of the patient’s progress and care during her hospital course. It is perhaps anomalous that in the modern hospital, surrounded by the most advanced technological equipment, doctors and nurses still write their chart entries by hand.¹ However, a resident is not an office worker sitting at a desk, but a physician moving about on a vast medical floor, filled with people, beds, gurneys, and sophisticated equipment, where kaleidoscopic sights and sounds assault the senses and events are in a perpetual state of flux; thus, residents’ notes are often written in the nursing station or residents’ lounge (see, e.g., [Pettinari, 1988: 2.](#))

The process by which residents learn to write these notes in most cases involves little or no direct instruction; instead, they learn by modeling. Residents study and review the notes of other physicians—particularly those of residents senior to themselves—in order to familiarize themselves with the pragmatic and cognitive structures that typify this professional genre. Moreover, as members of the treatment team consisting of attendings, residents, nurses, and other medical personnel responsible for the ongoing care and treatment of patients on the unit, residents are exposed to the continuous influx of information transmitted to them by the collegial talk and chart notations of other treaters, all of which serves to inform and clarify their own observations and judgments. The activities of the junior residents are monitored by their seniors, who may assist them in the drafting of a note or critique its form and content; in the case of an admit note, or of any other note in which the resident documents an actual treatment decision, the resident ordinarily will speak to the attending in person or by telephone and obtain concurrence with his or her plan prior to the writing of the note. In addition, the attending, who retains ultimate responsibility for the care of the patients on his or her ‘service’ (unit), is required to individually review and countersign each resident’s progress notes, in order to document his or her oversight and supervision. This review and countersignature may take place during an informal conference with the resident, who is thus provided with additional feedback in the form of constructive criticism.

It is as a part of this ongoing interactive process, and through the repetitive activity of performing examinations and making notations, that residents gain proficiency in the routines of medical care. Learning to write progress notes is thus a critical factor in the professional socialization of medical residents. However, although a number of researchers have described or analyzed residents’ oral case presentations ([Anspach, 1988](#); [Hunter, 1991](#); [Atkinson, 1999, 1995](#); [Erickson, 1999](#)), the latter’s written communications have seldom been studied (but see [Pettinari, 1988](#)). Nevertheless, residents’ progress notes provide an unparalleled opportunity to trace the acquisition of the cognitive skills that constitute clinical judgment.

¹ In what is still the minority of hospitals in the United States, physicians dictate their notes, which are then typed and inserted into the patients’ charts. One disadvantage of this procedure is that the notes are not immediately available for use in the patient’s ongoing care. Another is the possibility of transcription errors that the use of this procedure introduces.

27 Abd - gravid Fundal height - 19 cm
 28 Axiscan oblique lie w/vtx RUQ
 29 BPD - 5.6 = 24 wks
 30 Pelvic - gross ROM / nitrazine / ferning
 31 Cx - 1 cm floating
 32 Ext - ⊖ edema reflexes ¹⁺/1+
 33
 34 Smear - few WBC's seen, nl vaginal flora
 35 CBC 9.6/28.7 < 7,200
 36
 37 Imp 21-24 wk IUP
 38 PROM
 39 s/p C/S x 2
 40
 41 Dr. Sanders contacted - will wait for AM for probable
 42 pitocin induction. Betamethasone not indicated as
 43 fetus < 26 wks
 44 //resident signature//
 45 //attending countersignature//

This note is a representative example of a large number of residents' admit notes from a number of different hospitals that I have reviewed over the years, and is illustrative of the pragmatic and analytic skills acquired by obstetrical residents in learning to produce this medical subgenre. This particular note was selected for analysis because it identifies a specific medical problem, the explication of which is relatively straightforward. Although this record is over 20 years old, the notational conventions and analytic processes that they reflect have remained stable over time; changes in the underlying scientific knowledge, where applicable, are noted.⁴

In the following sections, I will examine the generic conventions that structure residents' admit notes, including abbreviations, telegraphic syntax, the 'SOAP' format, and reliance on background knowledge. I will then demonstrate how the ability to operate these conventions evidences both the resident's professional socialization and the growth of his or her clinical judgment.

7. Analysis

7.1. Form

7.1.1. Abbreviations

In the modern tertiary-care hospital, where time is at a premium and the first order of priority is patient care, the resident's responsibility to produce detailed progress notes

⁴ The various abbreviations and symbols in the note are explained in the analysis. See also the appendix for a list of the most commonly used abbreviations.

strains the limits of possibility (see [Weinholtz, 1991: 161](#)). In the controlled chaos of the obstetrical unit, the notes recorded in patients' charts are often reformulations of jottings scribbled on scraps of paper that are stuffed into pockets of busy doctors and nurses, to be withdrawn during slow periods or at the ends of shifts, when the information that the notes contain can be transferred to the official record, the chart itself. Even in such moments, however, the press for efficiency and economy of expression dictates that there be no wasted pen strokes in the record, and it is this attention to time management—and not, as some think, the desire to construct an impenetrable medical argot—that has produced the system of abbreviations that is one of the most characteristic features of medical records. This dense code is aptly exemplified in the opening section of the note under consideration here:

1 Admit Note 4/18/81 MN 1200 AM
 2
 3 Pt is 25yo BF G5P2Ab2 EDC ?8/81 who
 4 presented to Central w/ hx gross ROM on
 5 4/17/81 @ 7 pm. No contractions. Fluid was clear
 6 Hx sexual intercourse this AM.

More than any other single factor, it is this system of notation, as mysterious as hieroglyphics, that renders medical records cryptic and incomprehensible to the uninitiated. However, although the lay reader ordinarily does not hold the key that unlocks the medical code, the medical resident quickly learns to match the abbreviations to the terms that are continuously recycled in the clinical environment. Thus, the excerpt presented above may be glossed as

Admit Note April 18, 1981, midnight, 12:00 a.m.
 The patient is a 25-year-old Black female, gravida 5, para 2, abortus 2, with an estimated date of confinement of, questionably, August 1981, who presented to Central with a history of gross rupture of membranes on April 17, 1981 at 7:00 p.m. There were no contractions. Fluid was clear. She reports a history of sexual Rintercourse this morning.

Similarly, a notation such as

16 PMH - Anemia ⊖ DM, HTN, surgery
 17 Meds - none NKA
 18 SH ⊖
 19 FH ⊕ heart trouble - father
 20 ROS - Hx URI, sore throat x 1-2 days

would translate unproblematically as

Pre-morbid history of anemia; no diabetes mellitus, hypertension, or surgery.
 No medications; no known [drug] allergies.
 Social history negative.

Family history positive for heart trouble in the patient's father.

Review of systems: History of upper respiratory infection, sore throat for one to two days.

Moreover, because the range of possible meanings of any given abbreviation is restricted by context, the experienced reader of medical records becomes adept at inferring the meaning of even unfamiliar abbreviations. Thus, when I encountered the following in my initial reading of the note under analysis:

11 Past Ob HX - '76 - C/S Holy Redeemer CPD 5#12oz A&W
12 '77 - C/S Allendale 6#12oz A

a moment's reflection was sufficient to allow me to recognize that 'A&W' following the birth weight of the infant born in 1976 meant 'alive and well.'⁵

Medical abbreviations may be divided into three main categories: Latin abbreviations, English abbreviations, and iconic symbols (Hobbs, 2002: 269). Although there is no authoritative source of 'standard' medical abbreviations (Van Naerssen, 1985: 50), a great deal of *de facto* standardization has occurred, and identical or near-identical abbreviations for many common medical terms are used in hospitals and clinics throughout the United States.

7.1.2. Telegraphic syntax

The use of abbreviations in medical records is coupled with a telegraphic syntax that eliminates nonessential words such as articles and the existential *there*. The goal is "to construct the sparest possible plot still capable of knitting up the details of the case and rendering it treatable" (Hunter, 1991: 91). Progress notes are thus 'notes' in the vernacular sense of being memoranda rather than expository essays. Thus, the following excerpt of the note under analysis

7 Dating: Pt underwent VIP 2° to rubella infection summer '80
8 Irregular menses thereafter w/ menses 9/80 ?10/80 ?11/17/80
9 U/S 2/81 → EDC 8/81 } 21-24 wks gestation
10 quickening end March

would be interpreted as follows (words omitted in the note are enclosed in brackets):

[Information relevant to] dating:⁶ [The] patient underwent [a] voluntary interruption of pregnancy secondary to [a] rubella infection [in the] summer [of] 1980.

⁵ The excerpt may be glossed as follows: 'Past obstetrical history: Cesarean section delivery at Holy Redeemer Hospital in 1976 for cephalopelvic disproportion, infant weighed 5 pounds, 12 ounces at birth and is currently alive and well; cesarean section delivery at Allendale Hospital in 1977, infant weighed 6 pounds, 12 ounces at birth and is currently alive.'

⁶ The term 'dating' refers to determination of the patient's estimated 'due date.'

[She reports she had] irregular menses thereafter, with menses [in] September 1980, questionably [in] October 1980, questionably [beginning] November 17, 1980.

[She reports that she had an] ultrasound [examination] [in] February 1981, indicating [an] estimated date of confinement [of] August [and that she is now] at 21–24 weeks gestation.

[She reports that she felt] quickening [at the] end [of] March.

Thus, the chart is a complex technical account in a highly condensed form.

7.1.3. Formal organization

The form of the admit note is modeled on the problem-oriented medical record (POMR), a concept introduced by Dr. Lawrence Weed to “help students systematize their clinical experience by means of their clinical records” (1969: 6). Weed viewed medical record keeping as central to the resident’s professional socialization:

Through the creation of a proper record and the proper management of the record, the physician’s actual performance in given areas can be exposed to critical evaluation in the same way that the scientist’s work is evaluated by journal editors; the physician can be assisted to demonstrate thoroughness and reliability in the formulation of all the patient’s problems; and he can be guided in the exercise of sound analytical thought, coupled with good clinical judgment, in establishing patient-care plans and in following up patient progress in each problem area. (Weed, 1969: 11)

The organizational structure proposed by Weed consists of a set order and sequence for the recording of progress notes which divides the information recorded into four categories labeled Subjective, Objective, Assessment and Plan, and accordingly is known as ‘the SOAP method’ (Hobbs, 2003: 454; Waters and Murphy, 1979: 74). Like the case presentation, the SOAP method is a training tool, the purpose of which is to provide novice physicians with a comprehensive analytic framework designed to facilitate medical problem solving. Under the SOAP method, the first section of the progress note (lines 3–20 of the data examined here), the *subjective data*, records the history, that is, the patient’s subjective report of symptoms and disease (Hobbs, 2003: 454; Waters and Murphy, 1979: 74). This primacy is not arbitrary: it is estimated that as many as 60–75% of patients may be diagnosed by an experienced practitioner on the basis of a full and accurate history *alone* (Easton, 1974: 84).

The second section of the progress note (lines 22–35 of the present data), the *objective data*, records the information obtained from the physician’s observations during the physical examination of the patient, as well as that obtained from radiographic reports, the results of laboratory tests, etc. (Hobbs, 2003: 455; Easton, 1974: 86). The objective data are thus differentiated from the patient’s subjective report of symptoms by being either measurable or directly observable *by the physician* (Easton, 1974: 86; see also Atkinson, 1999: 98).

The third section of the progress note (lines 37–39 of the present data), the *assessment*, contains the physician’s analysis of the subjective and objective data and conclusion regarding the patient’s condition (Hobbs, 2003: 455–456; Easton, 1974: 88).

The terms *assessment* or *impression* are commonly substituted by physicians for the more definitive term *diagnosis*, which connotes certainty as to the correctness of the conclusion reached (Easton, 1974: 88).

The fourth and final element of the progress note (lines 41–43 of the present data), the *plan*, records the physician's 'plan of management' regarding the patient's ongoing care, including medications, diagnostic testing, operative intervention, etc. The plan "is where the appraisal is translated into action" (Easton, 1974: 92; see Hobbs, 2003: 456).

This required standard format provides the resident with a model for the structuring of the medical encounter that is intended both to ensure that all relevant topics are addressed and to organize the information elicited in a manner designed to "highlight the pattern of disease" (Hunter, 1991:56; Rees, 1981:56). Adherence to this model produces the characteristic 'sameness' of residents' notes (Rees, 1981:56), which is most aptly illustrated by comparing the note under examination here to the following note written by a different resident at a different hospital some 16 years later:

11-17-97 H&P
0420 C.C. Ctx
26-yo G5P0313 EDC = 12-9-97 by LMP
and US present to L&D C/O ctx since 20:00
last PM. Ø VB Ø ROM / FM
Prenatal care with Dr. Lee uneventful

OB Hx C/S x 1 for fetal distress 1989 6#3
 SVD x 1 94 7#13
 SVD x 1 96 8#3
 Sab x 1 93 4 mo
PMHx: Denies

PSHx: umbilical hernia repair
SHx: Ø Tob Ø ETOH Ø illicit drugs
Meds: PNV, Keflex for UTI
All: NKDA
PE: T = 99.4 P = 126 Res = 26 BP = 136/79
HEENT: WNL
H: RRR
L: CTA b/l
Abd: Obese, NT
Ext: Ø edema
SVE: 3-4/90%/-2
FHT: c audible deceleration
AROM^a cl
IUPC, ISL applied

A/P: IU Pat 36+ wks

⊕Hx of GBS

NR FHT⁷

7.2. Content

The shared knowledge of physicians includes vast stores of information regarding the functioning of the human body and the signs and symptoms of disease. Moreover, because the signs associated with ‘normal’ physiological functions on the one hand, and with specific pathologic conditions on the other, constitute the twin pillars of medical knowledge, in the clinical setting each such sign is understood as evidencing either the normal functioning of the body system in question, or the presence of a specific disease entity. The signs thus become indexical of conditions with which they are associated (see Rees, 1981: 66). Accordingly, in notating (i.e., writing notes in) a patient’s chart, it is not necessary to explain why a given observation did or did not lead to further inquiry, or to draw explicit connections between the diagnostic impression and the symptoms noted, as the writer assumes that the reader, drawing on the same stock of medical knowledge which formed the basis of the writer’s observations, will infer the ‘intermediary propositions’ that are missing from the text (Weissberg, 1984: 491; Rees, 1981: 66).

Physicians rely heavily on such background knowledge in notating patients’ charts (Hobbs, 2002: 267), it being presumed that the specialist reader “can operate the interpretive procedures that give the text its fuller meaning” (Rees, 1981: 68). Each use of background knowledge thus acts to construct the specialist audience (Giltrow, 1994: 165). Moreover, background knowledge is a major element in producing coherence in such texts (compare Swales, 1990: 168), which may appear incomprehensible to the lay reader, who is incapable of performing the inferential bridging necessary to supply the missing information (Weissberg, 1984: 490–491).

⁷ The note may be glossed as follows: “History and Physical: chief complaint—contractions. The patient is a 26-year-old woman in her fifth pregnancy, who has had zero term deliveries, three preterm deliveries, and one abortion; she has three living children. Her estimated date of confinement is December 9, 1997, as calculated by last menstrual period and ultrasonography. She presented to the labor and delivery unit complaining of contractions beginning at eight o’clock last evening. She had no vaginal bleeding, no rupture of membranes and positive fetal movement. Her prenatal care with Dr. Lee was uneventful. Her obstetrical history is as follows. She had a cesarean section delivery due to fetal distress in 1989; the infant weighed 6 pounds, 3 ounces. She had a spontaneous vaginal delivery in 1994; the infant weighed 7 pounds, 13 ounces. She had a spontaneous vaginal delivery in 1996; the infant weighed 8 pounds, 3 ounces. She had a spontaneous abortion in 1993 at four months. She denies any preexisting health problems. She has a prior surgical history of an umbilical hernia repair. She does not drink, smoke or use illicit drugs. She has no known drug allergies. On physical examination, her temperature was 99.4 °F, her pulse rate was 126, her respiratory rate was 26, and her blood pressure was 136/79. Examination of the head, eyes, ears, nose, and throat revealed no abnormalities. Her heart rate was regular; her lungs were clear to auscultation bilaterally; her abdomen was obese, non-tender; her extremities exhibited no edema. The sterile vaginal examination indicated that the cervix was dilated 3–4 cm, and was 90% effaced; the fetus was at –2 station. The fetal heart tones were noted to have audible decelerations. Artificial rupture of membranes was performed, yielding clear fluid. An intrauterine pressure catheter and internal scalp lead were applied. The assessment was: intrauterine pregnancy at 36-plus weeks with positive history of group B strep and non-reactive fetal heart tones.”

Giltrow notes that, although background knowledge “is available as a concept to discourse analysis, it is not exactly a discourse feature, because it is, after all, what is left unstated by the text” (1994: 157). Nevertheless, medical residents’ reliance on background knowledge offers clear evidence of their professional socialization. By their omission of information conventionally deemed to be redundant, residents display their understanding of the pragmatics of medical representation, and thus constitute themselves as members of the specialist community and as possessors of the community’s shared professional knowledge (Hobbs, 2002: 268).

In the following analysis, I will examine Dr. Baker’s use of background knowledge by demonstrating the meanings that the specialist reader would retrieve from her text. In so doing, I will show how coherence is supplied by the shared knowledge of the writer and reader (Swales, 1990: 168), which allows the reader to infer “details which are not written on the page” (Rees, 1981: 66).

7.2.1. Presenting complaint

1 Admit Note 4/18/81 MN 1200 AM
 2
 3 Pt is 25yo BF G5P2Ab2 EDC ?8/81 who
 4 presented to Central w/ hx gross ROM on
 5 4/17/81 @ 7 pm. No contractions. Fluid was clear
 6 Hx sexual intercourse this AM.

The note indicates that the patient is a 25-year-old Black female in her fifth pregnancy (G5) with two previous live deliveries (P2) and two previous abortions or miscarriages (Ab2; term is nonspecific), whose estimated date of delivery has been calculated as questionably in August 1981 (line 3). The patient initially presented to a nearby hospital (Central) with a history of gross rupture of membranes (i.e., her ‘water broke’) at 7:00 p.m. on April 17, 1981 (five hours prior to the time that the note was written); she reported that the fluid was clear, that she had had no contractions, and that she had engaged in sexual intercourse that morning (lines 3–6). Dr. Baker’s selection of this information for inclusion in the record may be analyzed as follows.

The note opens with the standard description of the obstetrical patient, which conventionally includes the age, race or ethnicity, reproductive history, and expected date of delivery, all of these data being relevant to the evaluation and treatment of a pregnant patient.⁸ In this case, the information provided presents three areas of concern that a physician reading the note would expect to see addressed. First, the patient’s race places her at increased risk for health conditions including hypertension and diabetes, both of which can cause serious pregnancy complications (Ernster and Colford, 1998: 14; Cunningham et al., 1997: 693, 1203). Secondly, she has had two previous abortions which, if spontaneous, may suggest factors creating an increased risk for miscarriage (see, e.g., Cunningham et al., 1997: 585–590). Last, but not least, is the question regarding the patient’s estimated delivery date, which suggests uncertainty as to the date of her last menstrual period, since the delivery date is

⁸ References to gender are often omitted, as all obstetrical patients are female.

ordinarily calculated by taking the first day of the patient's last menstrual period, adding one year and seven days and then subtracting three months (Cunningham et al., 1997: 229). The estimated delivery date is used to calculate the age of the fetus; thus, uncertainty as to the estimated delivery date is problematic because precise knowledge of the fetus' age is critical to optimal obstetrical management (Cunningham et al., 1997: 229). Each of these issues is addressed in subsequent sections of the note.

The note continues with the patient's subjective account of the symptoms that prompted her presentation for medical intervention. Here the patient, who was approximately five months pregnant, was transferred to Valley from Central Hospital, which does not have an obstetrical unit, for evaluation of an obstetrical complaint: she reported gross rupture of membranes at 7:00 p.m. Rupture of membranes is ordinarily signaled by a gush of varying amounts of clear fluid (Cunningham et al., 1997: 269). Here, use of the term 'gross' indicates a large amount of fluid. Pregnant patients are instructed to note the color of the fluid that appears at the time of membrane rupture, because discoloration of the amniotic fluid is associated with pregnancy complications, including fetal death (Cunningham et al., 1997: 34). Here, the fluid was clear; thus, this particular finding was negative (i.e., unproblematic). Because rupture of membranes ordinarily occurs during labor (Cunningham et al., 1997: 269), the patient was asked whether she had had any contractions. Her negative response led to consideration of another possibility: sexual intercourse, which has been associated with preterm rupture of membranes (Cunningham et al., 1997: 242). The patient confirmed that she had had sexual intercourse that morning.

Because the overwhelming majority of women commence labor within a week of membrane rupture, preterm rupture of membranes signals probable delivery of an immature fetus (Cunningham et al., 1997: 809). Accordingly, it becomes critical to determine the gestational age of the fetus in order to implement an appropriate plan of management.

7.2.2. Dating

- 7 Dating: Pt underwent VIP 2° to rubella infection summer '80
 8 Irregular menses thereafter w/ menses 9/80 ?10/80 ?11/17/80
 9 U/S 2/81 → EDC 8/81 } 21-24 wks gestation
 10 quickening end March

In this section of the note, Dr. Baker records her efforts to ascertain the patient's delivery date (*Dating*), in order to determine the gestational age of her fetus. The note indicates that the patient underwent an elective abortion (*VIP*, i.e., *voluntary interruption of pregnancy*) after she contracted rubella (German measles) in the summer of 1980, and subsequently had irregular menses; she reported a menstrual period in September 1980, and, with less precision as to the dates, in October and November, estimating that her November period began on the seventeenth of that month (lines 7–8). She had undergone ultrasound examination in February 1981, which indicated an estimated delivery date of August 1981, placing the current gestational age of the fetus at between 21 and 24 weeks (line 9). She first felt fetal movement at the end of March (line 10).

A physician reading the note would infer the appropriate intermediary propositions to interpret the information recorded by Dr. Baker as follows: Maternal rubella infection

during the first trimester of pregnancy carries with it a significant risk of serious congenital fetal malformation (Cunningham et al., 1997: 1301–1303); thus, women who contract rubella at this stage of pregnancy often choose to terminate the pregnancy, as did this patient. She reported resumption of menstruation in September 1980, with ‘irregular’ periods thereafter. It appears from the imprecision of her report that she did not chart her menstrual cycles and was relying on an imperfect memory in attempting to reconstruct her menstrual history. An ultrasound examination performed in February to confirm dating suggested a current gestational age of 21–24 weeks; however, this was somewhat inconsistent with the patient’s report that she first felt fetal movement (‘quickening’) at the end of March, since quickening occurs between 16 and 20 weeks (Cunningham et al., 1997: 23), suggesting a current gestational age of 19–23 weeks. The evidence of dating is thus equivocal at best.

7.2.3. Obstetrical history

- | | |
|----|---|
| 11 | Past Ob HX - '76 - C/S Holy Redeemer CPD 5#12oz A&W |
| 12 | '77 - C/S Allendale 6#12oz A |
| 13 | '77 Ab@ 3 mos |
| 14 | '80 5 mo VIP 2° Rubella infection |

The obstetrical history is a standard component of the initial evaluation of an obstetrical patient and provides information that is highly relevant to patient care. In this case the note indicates that the patient’s first pregnancy resulted in the birth of a 5 pound, 12 ounce infant, currently alive and well, that was delivered by cesarean section (*C/S*) for cephalopelvic disproportion (*CPD*) at Holy Redeemer Hospital in 1976 (line 11). Cephalopelvic disproportion refers to the situation where the fetus’ head is, or is suspected to be, too large to pass through the maternal pelvic inlet, resulting in *dystocia* (‘difficult delivery’; Cunningham et al., 1997: 415), making vaginal delivery impossible. Dystocia and a prior cesarean section are among the most common indications for cesarean delivery (Cunningham et al., 1997: 510). Thus, no indication for the patient’s second cesarean delivery in 1977 (line 12) is stated in the note, as the indication (the patient’s prior cesarean delivery) may be inferred. The note also indicates that the patient had an ‘abortion’ at three months in 1977, the same year that her second child was born, and that she underwent an elective abortion (*VIP*) in 1980 after contracting rubella (lines 13–14). Although the term ‘abortion’ in its technical sense is not specific to elective or therapeutic abortions, as it also refers to spontaneous abortions (‘miscarriages’), the resident’s use of the abbreviation ‘VIP’ in line 14 of this note suggests that she intended to indicate a spontaneous abortion by use of the abbreviation ‘Ab’ in line 13.

7.2.4. Generic medical history

- | | |
|----|---------------------------------|
| 15 | |
| 16 | PMH - Anemia ⊖ DM, HTN, surgery |
| 17 | Meds - none NKA |
| 18 | SH ⊖ |

- 19 FH ⊕ heart trouble - father
 20 ROS - Hx URI, sore throat x 1-2 days

Following the obstetrical history, and separated from it by a blank line, is the standard form medical history, which is uniform across specialties, has a set order and sequence, and is routinely elicited from all patients presenting themselves for medical attention. Elements of the standard history include the patient's preexisting medical conditions (*PMH* = *pre-morbid history*), current medications (*Meds*), social history (*SH*), family history (*FH*), and review of systems (*ROS*). The history thus proceeds in a question-and-answer format, with the physician introducing the successive topics, generally beginning with open-ended questions ("Are you taking any prescription medications?") and following up with more specific questions where the information furnished by the patient indicates a need for further inquiry ("How long have you been taking Coumadin?").

In this case, the patient stated that she had a history of anemia, a condition that has been associated with preterm birth in Black women (Cunningham et al., 1997: 1174). She denied any history of diabetes mellitus (*DM*), hypertension (*HTN*, i.e., high blood pressure) or surgery (line 16). The notation, containing the symbol for 'negative' (⊖) indicates that the information was given in response to the resident's specific questions; here, the questions regarding a history of diabetes or hypertension are relevant to the patient's race-related risk of developing these diseases which, as noted above, can cause serious pregnancy complications.

The patient stated that she was not currently taking any prescription medications and had no known allergies (*NKA*; line 17). Her social history was noted to be negative (line 18). 'Social history,' an apparently general term, in fact refers to the specific categories of use of controlled substances (alcohol, tobacco and illicit drugs) and sexually transmitted diseases. Here, the notation '⊖' ('negative') indicates that the patient stated that she did not drink, smoke, or use illicit drugs, and that she had no history of sexually transmitted disease. The category of 'family history' refers to genetically transmitted health conditions of family members, such as cancer, diabetes, heart disease, and hypertension; the patient stated that her father had "heart trouble" (line 19). The 'review of systems,' the final area of inquiry in the standard history, seeks to elicit information regarding symptoms or problems relating to any of the major body systems (head, eyes, ears, nose, throat, chest, abdomen, extremities). In this case, the patient stated that she had had an upper respiratory infection, characterized by a sore throat, for the past one to two days (line 19), thus, indicating an area for additional follow up.

7.2.5. Physical examination

- 21
 22 PE 100/60 99.5
 23 HEENT - WNL - some pharyngitis ⊖ thyroid
 24 Chest - clear
 25 Breast - no masses
 26 CVS - Reg w/o *m* gallop
 27 Abd - gravid Fundal height - 19 cm

- 28 Axiscan oblique lie w/vtx RUQ
 29 BPD - 5.6 = 24 wks
 30 Pelvic - gross ROM / nitrazine / ferning
 31 Cx - 1 cm floating
 32 Ext - V edema reflexes ¹⁺/1+

The physical examination follows the history; to suggest conducting the physical examination prior to taking the history, or recording these elements of the medical encounter in other than their canonical order would strike a physician as inappropriate, even bizarre (Easton, 1974: ix). This attitude is not simply the result of unthinking conformity to tradition; rather, the information obtained in the patient history shapes the physical examination—not in the sense of causing the physician to omit portions of the examination, or to conduct the examination in anything other than its conventional sequence, but in the sense that his or her observations will be guided by the problems or conditions suggested by the patient’s subjective description.

7.2.5.1. Vital signs.

- 22 PE 100/60 99.5

The physical examination (*PE*) begins with measurement and recording of the vital signs (blood pressure and temperature) and then continues with the physician’s examination (visual, tactile, or auditory) of the major systems of the body. The information obtained through direct personal observation is then weighed against the patient’s complaint and assessed in light of the physician’s fund of medical knowledge to yield the ‘clinical impression,’ the physician’s conclusion as to the cause of the patient’s symptoms. In this case, the patient’s blood pressure is 100/60 and her temperature is 99.5 °F (line 22). This information is noted without any accompanying evaluation or comment; moreover, such evaluation or comment would be essentially redundant (see Giltrow, 1994: 159) because, to another physician reading this note, the fact that the patient’s blood pressure is normal and her temperature somewhat elevated (normal temperature is 98.6 °F) would be transparently obvious (compare Hobbs, 2002: 271).

7.2.5.2. Head, eyes, ears, nose, and throat.

- 23 HEENT - WNL - some pharyngitis ⊖ thyroid

The examination of the head, eyes, ears, nose, and throat (*HEENT*) is normal (*WNL*, i.e., within normal limits), except for “some pharyngitis” (inflammation of the pharynx, visible as increased redness; line 23). This objective sign is consistent both with the patient’s subjective complaint of a ‘sore throat’ and with her elevated temperature at the time of the examination. However, these symptoms may also be present in subacute thyroiditis (Berkow, 1992: 1083). Signaling her awareness of this association and appropriate response, Dr. Baker records her negative examination of the patient’s thyroid gland

(located above the Adam's apple; “⊖ thyroid”; line 23), indicating the absence of any enlargement.

7.2.5.3. Chest.

- 24 Chest - clear
- 25 Breast - no masses
- 26 CVS - Reg w/o *m* gallop

Examination of the chest includes the lungs, heart, and, in women, the breasts; this note lists the components of the examination on separate lines: The lungs (“chest”) are noted to be “clear”; examination of the breasts reveals “no masses” (i.e., no abnormal growths); and the patient's heart rate (CVS, i.e., cardiovascular system) is noted to be regular with no murmur or gallop (i.e., abnormal rhythm; lines 24–26). Thus, the result of the examination is in all respects normal.

7.2.5.4. Abdomen.

- 27 Abd - gravid Fundal height - 19 cm
- 28 Axiscan oblique lie w/vtx RUQ
- 29 BPD - 5.6 = 24 wks

In the non-pregnant patient, examination of the abdomen normally consists of palpating (pressing gently on) on the area in order to test for tenderness or masses. The abdominal examination of the pregnant patient is specific to her condition, and consists of measurement and X-ray or (under today's medical and technological standards) ultrasound examination. Here, the abdomen is noted to be “gravid” (i.e., pregnant), with a fundal height of 19 cm (line 27). The fundal height is the distance between the symphysis pubis (lowest point of the pelvis) and the uterine fundus (top of the uterus); between 20 and 34 weeks (‘term’ is 38–42 weeks), the fundal height in centimeters is equal to the gestational age of the fetus in weeks (Cunningham et al., 1997: 232). In this case, the fundal height of 19 cm is inconsistent with the information obtained from the patient's February ultrasound examination, which suggests a current gestational age of 21–24 weeks. However, it is consistent with her report of quickening at the end of March: Since quickening typically occurs between 16 and 20 weeks, a fundal height of 19 cm approximately three weeks later would plausibly suggest that the patient had felt quickening at 16 weeks.

Given these contradictions, and the importance of accurately ascertaining gestational age, multiple measurements are routinely taken. For example, a number of fetal measurements, including biparietal diameter (diameter of the head from side to side), head circumference, abdominal circumference, and femur length, are used to estimate fetal gestational age (Cunningham et al., 1997: 1027). In this case, X-rays (*axiscan*) were taken⁹ to ascertain the biparietal diameter, and the measurement obtained, 5.6 cm, corresponded to the average biparietal diameter at 24 weeks (line 28). The X-rays also revealed that the

⁹ This was in 1981; today, ultrasonography would be used.

position of the fetus (*lie*) in the uterus was ‘oblique’ (i.e., horizontal) with the head (*vertex*) in the right upper quadrant (*RUQ*).¹⁰

7.2.5.5. Pelvis.

- 30 Pelvic - gross ROM ⊕ nitrazine ⊕ ferning
31 Cx - 1 cm floating

Determining whether the patient is in labor is essential to the selection of appropriate interventions; accordingly, where symptoms or precursors of labor are present (e.g., contractions, rupture of membranes), a vaginal examination is performed to obtain information about (i) the presence of amniotic fluid, (ii) the condition of the maternal cervix, (iii) the fetal presenting part, (iv) the fetus’ ‘station’ or descent into the birth canal, and (v) the adequacy of the maternal pelvis to permit passage of the fetus (Cunningham et al., 1997: 327–328). In this case, Dr. Baker’s note addresses the first four of these factors, indicating that the patient’s report of gross rupture of membranes is confirmed by nitrazine and ferning (line 30), that her cervix is dilated 1 cm, and that the fetus is floating (line 31). The principles implied in her analysis are summarized below.

Rupture of membranes creates an increased risk of umbilical cord prolapse and/or compression and, if delivery is delayed more than 24 hours, of serious intrauterine infection; thus, confirmation of rupture of membranes is critical to optimal patient management (Cunningham et al., 1997: 328). Where rupture of membranes occurs outside the hospital setting, diagnostic tests may be administered to attempt to confirm the patient’s report (although none of these tests is completely reliable; Cunningham et al., 1997: 328). Two of the most common are ‘nitrazine’ and ‘ferning,’ both of which were administered here with positive results, confirming rupture of membranes.

With the onset of labor, cervical dilatation commences and the fetus descends into the vaginal vault until the ‘presenting part’ (i.e., the first part to emerge during childbirth), ordinarily the head, is ‘engaged,’ that is, locked into position for delivery (Cunningham et al., 1997: 268). The cervix is the lower portion of the uterus, and is similar to a short narrow tube with a tightly closed lower end, which is located at the back of the vagina. During labor, the cervix undergoes progressive *dilatation* (opening) and *effacement* (thinning and flattening) until the patient is ‘complete’ (i.e., the cervix has expanded sufficiently to permit delivery of the fetus). The patient’s progress in labor may be measured by digital examination of the cervix, performed by inserting the examiner’s gloved index and middle fingers into the vaginal introitus (opening), and attempting to insert a finger into the cervix (Cunningham et al., 1997: 268). The examiner will encounter either a closed cervix, or some degree of dilatation, measured in centimeters; complete dilatation is approximately 10 cm (Cunningham et al., 1997: 268). In this case, the patient is dilated 1 cm, indicating that she has not yet commenced ‘active’ labor (defined as cervical dilatation of 3–4 cm.; Cunningham et al., 1997: 418).

¹⁰ Physicians conventionally divide the abdomen into four quarters, or quadrants, for descriptive clarity: left upper, left lower, right upper, and right lower.

The fetus' *station* is the position of the presenting part relative to the maternal pelvis, and ranges from -3 to $+3$, with 0 normally corresponding to the engagement of the fetal head, and $+3$ to 'crowning,' that is, the head being visible at the vaginal opening (Cunningham et al., 1997: 328). In this case, the fetus is 'floating,' that is, it has not yet begun the descent into the birth canal; consequently, there is no presenting part.

The fifth and final factor, pelvic adequacy, is not at issue, given the immaturity of the fetus (i.e., there is no possibility that the fetus would be too large to pass through the pelvis). Accordingly, it is not addressed.

7.2.5.6. Extremities.

32 Ext - \ominus edema reflexes $^{1+}/1+$

Examination of the extremities (arms and legs) of the pregnant patient focuses on the detection of edema (swelling), which could signal the presence of pregnancy-induced hypertension or preeclampsia; these conditions, if untreated, can lead to convulsions and even maternal death (Cunningham et al., 1997: 693). Here, the notes state that there is no edema of the extremities ("Ext - \ominus edema"), an unproblematic finding. Reflexes are noted as normal ("reflexes $^{1+}/1+$ ").

7.2.6. Laboratory tests

33
34 Smear - few WBC's seen, nl vaginal flora
35 CBC 9.6/28.7<7,200

Laboratory tests provide "hard data" about body systems and disease processes (Easton, 1974: 86). In this case, the patient's elevated temperature, coupled with her ruptured membranes, raises the issue of an intrauterine infection, warranting investigation. Dr. Baker's note indicates that a sampling of vaginal secretions placed on a slide and viewed microscopically showed normal vaginal flora, with few white blood cells (line 34); the complete blood count (CBC) indicates that the patient's hemoglobin is 9.6, her hematocrit is 28.7, and her white blood count is 7,200 (line 35). Visualization of normal microbial flora and few white blood cells in the vaginal secretions indicates the absence of infection (Berkow, 1992: 5), as does the normal white blood count of 7,200. An elevated white blood count would indicate infection (Berkow, 1992: 10). The patient's hemoglobin (protein pigment of the red blood cells) and hematocrit (ratio of red blood cells to blood volume) both fall below the normal range, meeting the diagnostic criteria of anemia (Berkow, 1992: 1141), which is consistent with the patient's oral history.

7.2.7. Impression

36
37 Imp 21-24 wk IUP
38 PROM
39 s/p C/S x 2

The ‘impression’ contains the physician’s conclusions regarding the patient’s condition, based upon her analysis of the subjective and objective data obtained from the history and physical examination (Easton, 1974: 88). Characteristically terse and unelaborated, it represents the most conservative analysis of the available medical facts (see Hunter, 1991: 91). Thus, Easton cautions:

Don’t call it a diagnosis unless it is ABSOLUTELY PROVEN without a doubt. You may get bogged down with technical medical terms and miss the opportunity to apprise the problem in simple, clear language. Just say what you think is going on. Be honest. Do not overstate or misinterpret the situation or jump to a premature conclusion on the basis of inadequate Subjective and Objective data and your intuition or ‘clinical impression.’
(1974: 88)

Dr. Baker’s impression adheres to this model, stating her conclusions as follows: “21–24 week intrauterine pregnancy; premature rupture of membranes; status post cesarean section times two” (lines 37–39). This spare account shears away all unnecessary detail, placing the clinical problem in sharp relief: Rupture of membranes, the harbinger of labor, has occurred in a patient whose fetus is not yet viable.¹¹ The absence of any additional comment or explanation displays Dr. Baker’s understanding that such elaborations are superfluous to her intended audience (Hobbs, 2002: 268) and would be considered to be redundant. Thus, Dr. Baker displays her awareness that an obstetrician, noting that the patient has confirmed premature rupture of membranes at 21–24 weeks, will conclude that immediate termination of the pregnancy is warranted, because the risk to the patient is too high to justify its continuation where there is no reasonable likelihood that it will result in the birth of a viable infant (Beydoun and Yasin, 1986: 471; Taylor and Garite, 1984: 615). Moreover, although this patient ordinarily would be a candidate for a repeat cesarean section delivery, the increased maternal risk of cesarean delivery should not be incurred where there is little possibility of fetal survival (Beydoun and Yasin, 1986: 477; Taylor and Garite, 1984: 619).¹²

7.2.8. Plan

40
41 Dr. Sanders contacted - will wait for AM for probable
42 pitocin induction. Betamethasone not indicated as
43 fetus < 26 wks

The plan states the action to be taken in managing the patient’s condition. Here, Dr. Baker notes that she has contacted her senior resident, Dr. Sanders, to obtain concurrence in her plan of care (line 41). The plan was to wait for morning (when Dr. Sanders would be in to examine the patient) to induce labor by administering intravenous pitocin (lines 41–42),

¹¹ Based upon 1981 standards.

¹² Again, this analysis reflects standards of fetal viability and obstetrical care that existed at the time of this patient’s admission.

a synthetic form of oxytocin, the pituitary hormone that stimulates uterine contractions (Cunningham et al., 1997: 426; Berkow, 1992: 1058–1059). Dr. Baker notes that Betamethasone, a steroid which is given to women in preterm labor by intramuscular injection to promote fetal lung maturity (Cunningham et al., 1997: 812–813) “is not indicated as the fetus is less than 26 weeks” (lines 42–43), indexing her (or Dr. Sanders’) awareness that maternal steroid therapy has not been found to be efficacious prior to 27 weeks (Beydoun and Yasin, 1986: 477), and thus cannot be used to attempt to enable the survival of a fetus of this gestational age.¹³

8. Discussion

The education and training of physicians begins with the accumulation of information pertaining to human biology and disease pathology, but it does not end there, because physicians must be able to apply theoretical knowledge in the field. However, lists of symptoms stated in authoritative texts in 12-point type lose something in the translation when they appear in embodied form: It is one thing to understand the relationship between various degrees of cervical dilatation and the progress of labor, and another to be able to identify them by digital examination. Then, there is the problem that many symptoms—like the patient’s report of dizziness or pain—arise from internal sensations that do not manifest themselves to the direct observation of the physician; an additional problem is that a patient may exhibit (or appear to exhibit) one or more of the characteristic symptoms of a particular condition, while failing to exhibit others. These problems illustrate the discrepancies between textbook descriptions and their imperfect or confusing real-life instantiations that typify the world of medical practice, a world that must be experienced to be understood. Nevertheless, the ability to diagnose diseases and conditions promptly and accurately is the *sine qua non* of professional competence; and although this ‘clinical judgment’ may appear (even to the physician possessing it) to be intuitive, it is actually a product of the saturation that results from the serial exposure to a large number of varying presentations of the same diseases and conditions.

The development of clinical judgment is a central goal of residency training (Hunter, 1991: 40); yet this process of matching symptoms to disease categories is a complex skill that involves a range of competencies, and the mastery of a complex skill requires mastering its individual features (Bruner, 1976: 40). Indeed, until the learner “can master the subroutines, the demonstration of the whole task is about as helpful as a demonstration by an accomplished skier is to a beginner” (Bruner, 1976: 40–41). However, once the operations of the individual features have been learned, repetition alone will provide the routinization that permits their combination to produce a complex task (Bruner, 1976: 40). Progress notes provide a framework for the resident’s acquisition of the various components of medical diagnosis since, in order to write an appropriate progress note, the resident must understand the conventions of both medical representation and medical performance (Hunter, 1991: 89). He or she must command both the relevant specialty terms (e.g., those specific to the field of obstetrics) and the principles that they embody, and must apply that

¹³ See footnote 10.

theoretical knowledge to the treatment situation at hand by identifying and organizing information drawn from diverse sources—the patient’s account of symptoms, the resident’s own clinical examination, and the results of laboratory tests—in order to produce a narrative which is not a mere recapitulation of the information thus aggregated but, rather, the transformation of that information into a distinct medical entity, the ‘case’ (Cicourel, 1999: 193; Erickson, 1999: 112; Atkinson, 1995: 95).

Residents typically embark on this process by first reading—or, more accurately, decoding—the notes of others, thereby acquiring the extensive repertoire of abbreviations that is an indispensable feature of continuous record-keeping in a time-sensitive environment. The intense concentration that this requires ensures that the resident will become familiar with the topics, order of presentation, and mode of reasoning that the notes contain. As the resident carries out his or her own patient-care responsibilities, the SOAP method provides a model for the structuring, not only of his or her progress notes, but of the medical encounter itself, its list of topics and their mandatory sequence acting to ensure that all relevant data are obtained and that an analysis is performed, yielding a diagnostic impression and plan of management. Thus, through the repetitive process of performing examinations and writing progress notes, the resident gains proficiency in the routines of medical care. This proficiency is *pragmatic* proficiency because medical diagnosis is a narrative interpretive process that is produced through language (see Hunter, 1991: xvii; Atkinson, 1977: 100–101); thus, progress notes do not *describe*, but rather *enact*, medical work (Atkinson, 1977: 100–101).

As residents progress through their residency training, their increasing pragmatic awareness results in notes that are briefer and more appropriately detailed (Pettinari, 1988: 87). There is a shift away from the novice’s exhaustive cataloguing of every finding, whether normal or abnormal, to the more experienced practitioner’s focus on abnormal findings; this evidences the resident’s growing understanding that there should be “a clear relationship between the information recorded as part of the history and examination and the diagnosis which it documents” (Rees, 1981: 56). This focus in turn reveals, or rather points to, the writer’s unstated analysis, which is deemed to be inferable from the juxtaposition of the problems listed and the conclusions reached (see Hobbs, 2002: 268). Thus, by the omission of explanations deemed to be self-evident, the resident invokes the shared knowledge of the specialist community, which allows the reader “to ‘read into’ the statements more than the writer has actually placed on the page” (Rees, 1981: 66).

The data presented here provide an example of a first-year obstetrical resident’s admit note that is similar to thousands of such notes written by residents in teaching hospitals every day. This note, which demonstrates Dr. Baker’s command of both the pragmatic and the cognitive elements of obstetrical presentation, provides cogent evidence of the progress of her professional socialization in the nine short months since her arrival at Valley Hospital, and also demonstrates to the competent reader, who can “read between the lines,” taking into account the analysis implicit in the dense factual detail (Rees, 1981: 68), the growth of her clinical judgment.

The clinical setting provides the opportunity to learn by modeling rather than by direct instruction (Erickson, 1999: 137). Residents are exposed to “a whole complex of style [that] is modeled by an expert and is apprehended partially and gradually by the learner, who must reach for it, not simply receive it” (Erickson, 1999: 137). As an obstetrical

resident begins to internalize the obstetrical register, he or she is not merely acquiring a specialized vocabulary, but is assuming the identity of ‘an OB’¹⁴ who speaks of *primips*, *EDCs* and *SVEs*, and who dreams of delivering triplets ‘from below.’¹⁵ Through the exercise of memorizing obstetrical terms and abbreviations and then using them to describe actual clinical situations, the resident begins to construct the internal model of this complex medical field which will inform his or her career as an obstetrician. In this internal model, terms are associated not only with standard definitions (e.g., edema = swelling of the tissues), but also with conditions of which they are indexical (e.g., edema is one of the cardinal signs of pregnancy-induced hypertension; compare Rees, 1981: 66). It is perhaps too seldom emphasized that the practice of any scientific discipline depends upon the practitioner’s ability to command vast amounts of technical knowledge that may only be acquired by memorization, and nowhere is this more true than in the contemporary practice of medicine. Thus, the repetitive activity of writing detailed admit notes, like the oral case presentation, may be seen as “a central activity linked with knowledge constitution” (Sarangi and Roberts, 1999: 37).

However, assuming the role of an obstetrician requires more than the ability to recognize and use the appropriate terminology. The resident must be able to use his or her knowledge of obstetrical principles to diagnose and treat patients: to determine what questions to ask, what examinations to perform, what tests to order, what conclusions to reach, and what actions to take to manage the patient’s treatment—and to do so in an interactive setting in which he or she is asked “to accept the obligations of meeting many problems simultaneously and yet to give to all the single-minded attention that is fundamental to mobilizing his enthusiasm and skill” (Weed, 1969: 3). Here again, the responsibility for writing admit notes, with the discipline imposed by their formal structure and the pressure exerted by the resident’s knowledge that the analysis that they contain will be scrutinized by his or her attending (Rees, 1981: 56, 59), requires that the resident actively engage previously learned principles and concepts, in order to identify the patient’s medical problem and to determine the appropriate course of action. Thus, the responsibility for writing the note shapes the medical encounter as much as the medical encounter shapes the note: Residents’ adherence to the conventionally mandated SOAP format assists them in “systematiz[ing] their clinical experience by means of their clinical records” (Weed, 1969: 6), and thus plays a crucial role in their professional socialization.

Yet, the extent to which this socialization has in fact occurred is evidenced less by what residents’ notes contain than by what they omit. The assumption that recorded factual details will be seen as indexical, that is, as pointing to a particular unstated conclusion that is accepted as ‘common ground’ (see Lee, 2001: 22) accounts for the near-total omission of explicit analysis in physicians’ progress notes. The resident’s reliance on background knowledge reflects pragmatic awareness that is a reliable indicator of the extent to which he or she has become integrated into the specialist ‘culture.’

¹⁴ The abbreviations for obstetrics/obstetrician and gynecology/gynecologist, ‘OB’ and ‘GYN,’ are conventionally pronounced ‘oh-bee’ and ‘gee-wye-en’ (alternatively, ‘oh-bee gin’).

¹⁵ One of my informants noted this proud achievement, illustrating what Erickson refers to as “the physician’s self-portrayal as a medical Odysseus or Lohengrin: ‘it is lonely and difficult work, but someone must do it’ ” (1999: 119). (N.B.: ‘from below’ means ‘vaginally,’ the point being that most triplet gestations are delivered by cesarean section.)

9. Conclusion

The practice of medicine is “the art of adjusting scientific abstractions to the individual case” (Hunter, 1991: xvii). As a result, the reality of medical practice in the clinical setting is that theoretical knowledge is not enough: the resident must learn to bridge the gap between the clearly formulated lists of symptoms contained in residents’ pocket guides¹⁶ and the confusion of incomplete or misleading information extracted from the history and examination, which he or she must shape into an external representation of the patient’s internal physiological processes. However, although this transformation of the patient into a ‘case’ has been the subject of considerable sociological and sociolinguistic research, the majority of these studies have focused on interpersonal issues, such as power and control, and thus have failed to address the case as the unit of medical inquiry. Nevertheless, as the institutionally sanctioned framework for identifying, organizing, and analyzing biophysical discursively constructed data, the case is the medium through which medical knowledge is reproduced and clinical judgment is exercised; and the professional socialization of medical residents primarily consists of the internalization of this framework through their oral and written case presentations.

By providing a framework for the resident’s acquisition of the various component skills involved in medical diagnosis, progress notes—and, in particular, admit notes—play a key role in the development of clinical judgment. The activity of reading and writing progress notes is an exercise in the development of pragmatic awareness, through which the resident learns, and learns to use, the terms, abbreviations, and discursive forms that constitute the specialty idiom. Moreover, the SOAP method provides a structure for the medical encounter that guides the novice’s investigation and analysis as he or she struggles to construct the ‘case.’ The significance of the SOAP method to the resident’s professional socialization becomes apparent with the recognition that the case itself is a discursive construct; thus, the repetitive activity of writing progress notes acts to consolidate the cognitive skills that are central to the performance of medical work and the development of clinical judgment.

Like the lines that parents draw on door frames to chart the increases in their children’s statures, residents’ progress notes record the resident’s progressive growth and development. Moreover, the socialization into the specialist community that occurs during residency is accomplished largely through processes linked to the production of these patient records, including the history and examination, the oral case presentation, and routine meetings with the attendings and senior residents during which the notes and the analyses they contain are evaluated by the resident’s senior colleagues (Atkinson, 1999: 97). These notes thus provide us with an invaluable resource in the study of the professional socialization of medical residents.

¹⁶ For example, the compact (4 in. × 5 in. × ½ in.) *Obstetrics, Gynecology & Infertility: Handbook for Clinicians, Resident Survival Guide* (5th ed.) provides the following diagnostic criteria for preterm labor:

1. Estimated gestational age <36 completed weeks
2. Uterine activity
3. Cervical dilation <2 cm or 80% effaced
4. Documented cervical change from single examiner

(Gordon et al., 2001: 68).

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Appendix A. Medical abbreviations

A.1. Generally used medical terms

c	Latin <i>cum</i>	'with'
s	Latin <i>sine</i>	'without'
S/P	Latin <i>status post</i>	'prior history of'
Rx	Latin <i>recipe</i>	(literally, 'take ye') used for prescriptions
AMA		'against medical advice'
Abd		'abdomen'
CBC		'complete blood count'
C/O		'complains of'
CTA		'clear to auscultation' (i.e., the chest)
Dx		'diagnosis'
D/W		'discussed with'
ETOH		('ethanol' ⇒) 'alcohol' (i.e., liquor)
Ext		'extremities' (i.e., limbs)
H&P		'history and physical'
HEENT		'head, eyes, ears, nose, and throat'
Hx		'history of'
Imp		'impression' (i.e., preliminary diagnosis)
IV		'intravenous'
NKDA		'no known drug allergies'
nl		'normal'
PE		'physical examination'
PERRLA		'pupils equal, round, and reactive to light and accommodation'
PRBCs		'packed red blood cells'
Pt		'patient'
R/O		'rule out'
RRR		'regular rate and rhythm' (re: the heart)
URI		'upper respiratory infection'
UTI		'urinary tract infection'
w/		'with'
w/o		'without'
WBC		'white blood count'
WNL		'within normal limits'
yo		'year(s) old'
2°		'secondary to' (i.e., caused by)

@	‘at’
+	‘positive for’
–	‘negative for’
∅	‘no’
×	‘times’ (used with hours, etc., to express duration)
>	‘more than/greater than’
<	‘less than’
~	‘approximately’

A.2. Medical terms specific to obstetrics

Ab		‘abortion’ (includes both spontaneous and induced)
accel		‘acceleration’ (i.e., of the heart rate)
AROM		‘artificial rupture of membranes’
BOW		‘bag of waters’ (i.e., the amnionic sac)
CPD		‘cephalopelvic disproportion’ (i.e., fetal/maternal)
C/S		‘cesarean section’
Ctx		‘contractions’ (variant of <i>UCs</i>)
Cx		‘cervix’
D&C		‘dilatation and curettage’
decel		‘deceleration’ (i.e., of the heart rate)
EDC		‘estimated date of confinement’ (i.e., delivery)
EGA		‘estimated gestational age’ (i.e., of the fetus)
FHT		‘fetal heart tones’
FM		‘fetal monitor’
G	Latin <i>gravida</i>	‘number of pregnancies, including current’
L&D		‘labor and delivery’
LMP		‘last menstrual period’
NR		‘non-reactive’
P	Latin <i>para</i>	‘number of liveborn deliveries’
PIH		‘pregnancy-induced hypertension’
PNV		‘prenatal vitamins’
Primip	Latin <i>primipara</i>	‘woman in her first pregnancy’
PROM		‘premature rupture of membranes’
ROM		‘rupture of membranes’
SROM		‘spontaneous rupture of membranes’
SVD		‘spontaneous vaginal delivery’
SVE		‘sterile vaginal examination’
TL		‘tubal ligation’
UCs		‘uterine contractions’ (variant of <i>Ctx</i>)
U/S		‘ultrasound’
VBAC		‘vaginal birth after cesarean’
Vtx		‘vertex’

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Pamela Hobbs is a doctoral candidate in Applied Linguistics at the University of California, Los Angeles. She is a 1985 graduate of the University of Michigan Law School and an attorney licensed to practice in the state of Michigan. Her research interests include legal discourse, medical discourse, and the evolution of communication.