COMMENTARY

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Short and sweet: Writing better consult notes in the era of the electronic medical record

After 4 decades of clinical practice in a teaching hospital, I believe that the notes we write to document medical consultations are too long. When I review them for my own patients, the only part I read is the consultant's assessment and diagnostic and therapeutic recommendations. Many of my colleagues and trainees do the same.

In the old days, when medical records were handwritten, the first three pages of my hospital's four-page consultation form were for the history, review of systems, physical examination, and test results. The top two-thirds of the last page was for diagnostic impressions and recommendations for additional testing and treatment, to be completed by the trainee performing the consultation.

This left only the bottom third of this page for attestation and additional remarks from the senior consultant. Often, this last (but most used) page was just a bullet list of diagnostic possibilities and suggested tests and treatments, with nothing about the critical reasoning underlying the differential diagnosis and recommendations. This was probably the result of fatigue from having to fill in the first three pages by hand, and then having only limited space on the final page.

Even though the written record has been replaced by the electronic medical record in my hospital, consult notes continue to be at least as long as before, without any change in the length of the assessment and recommendations section. I would guess this is true in most institutions and practices that have switched to an electronic record system.

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WHY ARE CONSULT NOTES SO LONG?

The main factor contributing to the lengthy consultation document is that the Center for Medicare and Medicaid Services, with other third-party payers following suit, ties the level of reimbursement to detailed documentation of the history (present, past medical, past surgical, medications, allergies, social, and family), review of systems, and physical examination in the consultation.[1] Physicians are under constant pressure from professional fee-coders to meet these requirements.

Since most of this information is already in the medical record, to require that it be documented again in the consultation note is unnecessary duplication. I believe that consultants comply with this requirement mainly to ensure adequate reimbursement, even though they know that the referring medical team will probably not read the repeated information.

Avoid repeating what is already in the record, but include your reasoning and teaching points

Electronic medical record systems, which focus disproportionately on meeting insurers' requirements governing reimbursement,[2–5] have made it easier to create a lengthy consult note by checking boxes in templates and copying and pasting from other parts of the electronic record.[2,6–12] Although verbatim copying and pasting may result in punitive audits by insurers, this practice remains common,[13] including, in my experience, in consultations.

WHAT ARE THE NEGATIVE EFFECTS OF A NEEDLESSLY LONG CONSULT NOTE?

Time spent on repeating information—even if less time is required when using an electronic system—is clearly time wasted, since this

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part of the consult note is hardly ever read. Equally bad, the assessment and recommendations section in consult notes continues to be very short, probably because long-standing physician practices change slowly.

An ideal consult note has been described as one that, in addition to addressing the patient care issues, is as brief as possible, avoids duplication of already documented information, and has educational value to the person requesting it.[14,15] The educational value of the consultation is especially important in teaching hospitals.

If the only part of the consultation perused in depth consists merely of lists of diagnoses, recommended tests, and therapy and does not include the consultant's critical reasoning underlying them, the educational value of the consultation is lost.

HOW CAN THE FORMAT BE MADE SHORTER, YET MORE USEFUL?

The note should begin by briefly documenting the reason the consultation was requested. Ideally, institutions should train their staff to state this very specifically. For example, instead of "clearance for surgery," it is better to ask, "Please identify risks involved in proposed surgery and suggest ways to reduce them." The former steers the consultant to merely say "cleared for surgery, but with increased risk," whereas the latter ensures a more specific and detailed response.

The main part should consist of a detailed assessment and recommendations section

The consulting team must review in detail and verify the accuracy of all available information in the patient's record. Once this is done, instead of repeating it, a statement that all existing information has been thoroughly reviewed should suffice, with mention in a separate paragraph of only the additional relevant positive or negative points in the history related to the issue the consultant has been asked to address.

The consultant shares with all users of the medical record the responsibility of pointing out and correcting any errors in the previously recorded information, thereby decreasing perpetuation of erroneous "chart lore," an undesirable consequence of copying and pasting. If only previously unrecorded data and corrections to existing information are documented, the referring team is more likely to read the note because it points out relevant information that has been overlooked.

The main part of the document should consist of a detailed assessment and recommendations section, which should include not only a list of diagnoses and recommendations for testing and treatment, but also the consultant's reasoning behind them, the results of tests already obtained that support the consultant's conclusions, and information of value for teaching and cost-effective practice. A critically reasoned assessment and recommendation section not only will prove very educational, but by challenging the consultant to justify his or her choices, may discourage unnecessary testing and questionable therapy[4,14] and thereby contribute to cost-saving.

My suggestions would not shorten the time spent by the consulting team in evaluating the patient, but only eliminate redundant documentation. I believe the consultation document will be shorter but adequate for patient care, the referring team will read and use the entire document, its educational value will be enhanced, and the time spent on redundant documentation will be saved.

A CASE VIGNETTE

The following vignette (from my own subspecialty) of a patient with acute kidney injury illustrates how a consult note can be made shorter but more useful and educational.

A 78-year-old man had a history of long-standing insulin-requiring diabetes mellitus, hypertension (treated with lisinopril and amlodipine), and benign prostatic hypertrophy. One month earlier, his blood urea nitrogen level had been 15 mg/dL and his serum creatinine had been 1.2 mg/dL.

He presented with a 3-day history of vomiting, diarrhea, and fever, presumed to be viral gastroenteritis. His blood urea nitrogen level was 100 mg, serum creatinine 2.5 mg, and blood glucose 450 mg/dL. Urinalysis revealed 2+ albuminuria, 3+ glucosuria, and 6 red blood cells per high-power field.

In the emergency department he received 2 L of normal saline and regular insulin intravenously, and an indwelling bladder catheter was inserted. He was admitted after 6 hours.

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TABLE 1

Our patient's consult note: The usual format and a more useful one

HISTORY AND WORKUP	
Usual format repeats the history, physical, laboratory, and imaging data already detailed in the record.	**Shorter, more useful format** states the reason the consultation was requested and that the history, physical, laboratory, and imaging data in the record were fully reviewed.
The additional points about nonprescription ibuprofen intake, urine fractional excretion of sodium being obtained several hours after receiving 2 L of normal saline, and past urinalysis 6 months earlier showing albuminuria and microscopic hematuria are included in the repeated information and unlikely to be read.	These points are shown in a separate paragraph as important additional information obtained by the consultant's team. Thus, this additional information is more likely to be read and its contribution to making the correct diagnosis noted by the referring team.
ASSESSMENT	
Usual format lists only the following:	**Suggested format** adds the following reasoning and educational information:
Prerenal azotemia (due to gastrointestinal fluid loss and renal fluid loss due to uncontrolled diabetes) plus use of lisinopril and ibuprofen	We had to ask the patient specifically about over-the-counter medication use (very important to do in all patients with renal dysfunction) to learn about his ibuprofen use, which might have contributed to prerenal azotemia. Although high fractional excretion of sodium suggests acute tubular necrosis, absence of granular casts in the urine sediment makes acute tubular necrosis unlikely. Uncontrolled diabetes causing urinary loss of glucose with resultant osmotic natriuresis and diuresis and the fact that fractional excretion of sodium was measured several hours after the patient was volume-repleted with normal saline can explain the high fractional excretion of sodium in this patient presenting with prerenal azotemia. The fractional excretion of urea in urine is more reliable under these circumstances. The high blood urea nitrogen-to-serum creatinine ratio (100/2.5 = 40:1, normal 15–20:1), indicating nonnecrotic tubules reabsorbing urea while creatinine is not reabsorbed, also favors the diagnosis of prerenal azotemia over acute tubular necrosis. Rapid improvement in blood urea nitrogen and serum creatinine levels with volume repletion in less than 24 hours will confirm prerenal azotemia.
Possible obstructive uropathy due to benign prostatic hypertrophy	Absence of hydronephrosis in an ultrasound scan done 18 hours after insertion of a bladder catheter does not rule out bladder outlet obstruction by prostatic causes, since bladder catheterization may have rapidly reversed hydronephrosis caused by benign prostatic hypertrophy.
Preexisting diabetic nephropathy	Review of past urinalyses results by us (an important part of evaluating any patient with acute kidney injury, to determine if the urinary abnormalities antedated the present illness) revealed the preexistence of these urinary findings at least 6 months earlier. Thus, these urinary findings are unconnected to the present illness. The most likely cause of these urinary findings is diabetic nephropathy. Although microscopic hematuria is not typical, up to 10 red blood cells per high-power field is not uncommon in diabetic nephropathy. Thus, rapidly progressive glomerulonephritis is unlikely in this patient.

(Continued on next page)

Tests obtained on arrival on the inpatient floor revealed a urinary fractional excretion of sodium of 2.5% and a blood glucose level of 295 mg/dL. His admission history and physical listed his home medications as insulin glargine, amlodipine, lisinopril, and tamsulosin. It also listed the differential diagnosis for acute kidney injury as:

- *Prerenal azotemia due to volume depletion*

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RECOMMENDATIONS

Usual format lists only the following:	**Suggested format** adds the following reasoning and educational information:
Continue intravenous normal saline, avoid nephrotoxic agents, hold lisinopril, and control diabetes well.	
Monitor blood urea nitrogen and serum creatinine levels serially. If they do not return to baseline or if they go up after the bladder catheter is removed, repeat renal ultrasonography.	Renal ultrasonography could have been deferred to see if these values returned to baseline with volume repletion alone. Ultrasonography will be indicated only if blood urea nitrogen and serum creatinine levels do not return to baseline with correction of volume depletion or if they go up after removal of the bladder catheter, because obstruction (hydronephrosis) will then have to be ruled out in this patient with known benign prostatic hypertrophy.
Check random urinary protein/creatinine ratio after acute kidney injury resolves.	This ratio is not reliable if done during ongoing acute kidney injury. This ratio will assess the quantity of urinary protein resulting from preexisting diabetic nephropathy.
Lisinopril may be restarted after blood urea nitrogen and serum creatinine levels return to baseline or stabilize (with periodic monitoring of these and, serum potassium level).	Restarting lisinopril will be especially important for slowing progression of diabetic nephropathy if the random urinary protein-creatinine ratio is > 0.5.
Consider nephrology follow-up.	Nephrology follow-up will be important if the urinary protein-creatinine ratio is > 0.5 or blood urea nitrogen and serum creatinine levels fail to return to baseline.
	Patient education: We informed the patient and his caregiver that ibuprofen and similar over-the-counter nonsteroidal anti-inflammatory drugs should be avoided to decrease risk of recurrence of kidney damage and other complications such as gastrointestinal bleeding.

- *Rapidly progressive glomerulonephritis to be ruled out in view of proteinuria and microhematuria*
- *Obstructive uropathy to be ruled out.*

Ultrasonography the morning after admission showed normal kidneys and no hydronephrosis. The absence of hydronephrosis was interpreted by the primary team as ruling out obstruction secondary to benign prostatic hypertrophy. The nephrology team saw the patient in consultation the day after admission and discovered the following additional information: urinalysis done 6 months earlier had also shown albuminuria and microhematuria, and the patient had been taking over-the-counter ibuprofen 400 mg three times daily for several days prior to admission.

TABLE 1 compares consultation documentation in the usual format and in the format I am suggesting. The revised format has much more information of educational value (eg, the importance of reviewing past urinalysis results, asking about over-the-counter medications, factors affecting fractional excretion of sodium, effect of bladder catheterization on hydronephrosis due to benign prostatic hypertrophy, and measuring urine protein only after acute kidney injury resolves). It also encourages cost-effective care (ultrasonography could have been delayed or avoided, and the patient could have been cautioned about ibuprofen-like drugs to decrease the risk of recurrent acute kidney injury).

FINAL THOUGHTS

The modifications I have suggested in consult notes will be accepted only if they are reimbursement-neutral. I hope insurers will not equate a shorter note with an opportunity to lower reimbursement and will see the value in not paying for things almost never read. I hope they will recognize and pay for the effort that went into

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creating a shorter document that contributes adequately to patient care, provides greater educational value, and may promote cost-effective medical practice. Also, not requiring redundant documentation may reduce or even eliminate undesirable copying and pasting.

Accountable-care organizations are an important part of the Affordable Care Act,[16] which went into effect in 2014. Many organizations had already come into existence in the United States before the act became effective, and their numbers and the number of patients covered by them are projected to grow enormously over the next few years.[17]

Since the accountable-care organization model will rely heavily on capitated reimbursement to contain costs, these organizations are likely to scrutinize and curtail the use of consultations. I believe that a shorter consultation note—yet one that is more useful for patient care, education, and cost-containment—is more likely to pass such scrutiny, especially if it decreases time spent on documentation. Furthermore, unlike the fee-for-service model, in a capitated-payment system it may not be necessary to lengthen consultation documentation just to ensure adequate reimbursement.

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