How to Write an Effective Clinical Document?

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Abstract

Medical records are the most important practice tools used by doctors in their daily practice, regardless of specialty. The rule of thumb is "If it is not documented, it does not exist." Deficiencies in the clinical documentation have been directly linked to increased incidence of adverse events and medical errors with resulting patient injury. Doctors are required to keep accurate and comprehensive medical records that will stand alone without their interpretation. An excellent medical record should be clear, concise, complete, accurate, and current factual record of clinical care. That must be recorded in a legible chronological and a confidential way while avoiding duplications and abbreviations. Written communication is vital to patients' quality of care, and thus this paper is dedicated to the basic written communication skills and concepts that are foundational to all healthcare professionals. In this practice point, we provide standardized templates for most common written documentation by physicians.

Keywords: Documentation, medical records, progress notes, written communication

Introduction

Written documentation of patient encounters is a necessary skill for all medical disciplines. Communication is crucial to quality care that the Accreditation Council for Graduate Medical Education included interpersonal and communication skills as one of the six core competencies.[1,2] Doctors are required to keep accurate, comprehensive medical records that will stand alone without the need for their interpretation. In addition to meeting professional and medico-legal requirements, good medical records will assist doctors and his/her colleagues in offering comprehensive, effective and efficient care for patients. On the other hand, the breakdown in written and verbal communication have been directly linked to increased incidence of adverse events and medical errors with resulting patient injury.[3,4] While verbal communication skills are taught and assessed in medical schools, medical students report limited instruction in written communication skills which is often informal through a hidden curriculum and lack formal feedback.[5,6] In a longitudinal study by Maguire *et al.* assessing how physicians' communication skills changed over their careers.[7] It was found that, without explicit intervention, most of the skills physicians acquired tended to be fixed in place by the end of residency. That is somewhat alarming! Common physicians problems while completing medical records are (i) neglecting to do a proper history and physical on every patient. (ii) failing to write a note: Some physicians make rounds and pass the nurses' station to give verbal instructions but without placing a progress note, sometimes not even a history or physical on the chart. (iii) forgetting to place an operative note in the chart instantly after a procedure or operation is performed. (iv) writing illegible and overuse of non-standardized abbreviations. (v) not entering the time and date or signing their notes. (vi) using the nonspecific phrases, "doing well" or "no change." This does not tell anyone what has happened on that incident. (vii) failure to note speaking to relatives or family about findings. (viii) not stating a diagnosis (or provisional diagnosis) when ordering investigations or treatments: Consistently, specify the condition that is being assessed or treated when prescribing medication, sending patient to laboratory or imaging, or starting a treatment.

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rule of thumb is "If it is not documented, it does not exist." This paper is dedicated to the basic written communication skills and concepts that are foundational to all healthcare professionals. We will provide standardized templates for most common written documentation by physicians. Macros and templates may be helpful in improving the completeness and efficiency of documentation.[8] The primary purpose of clinical documentation is to facilitate excellent care for patients. Documentation is essential to record pertinent facts, findings, and observations regarding a patient's health history including past and present illnesses, examination findings, results of tests, the nature of treatments, and outcomes. Good medical record should be clear, concise, complete, accurate, and current factual record of clinical care. That must be recorded in a legible chronological and a confidential way while avoiding duplications and abbreviations.[9,10]. Examples of written documentation are listed in Table 1. All orders should invariably be signed, dated, and timed.

COMMON WRITTEN DOCUMENTATION

Ideal history and physical

This is the cornerstone of the patient's admission as far as medical decision making goes. It is the single most referred-to note in the chart, the one every consultant, resident and nurse will turn to for information on the patient. It should be structured as follows:

i. History of present illness (HPI): The first sentence should be kept short, precise and containing meaningful and relevant information, for example: "A 67-year-old woman with known CAD and T2DM who presents with crushing, substernal chest pain." Keep it very short and to the point, including only those facts that directly relate to the ultimate diagnosis. In most of the times, HPI when done well, it should generate the right answer to a diagnostic dilemma before any test is ordered

The next paragraph should include a thorough analysis of the patient's complaint using the FAR COLDER system: Frequency, associated symptoms, radiations, character, onset, location, duration, exacerbating factors and relieving factors. Then, ask and answer all the pertinent review of systems (fever, +shortness of breath, no nausea

Table 1: Examples of written documentation

History and physical
Order: Admission, preoperative, postoperative, and transfer orders
Progress notes
Event notes
Preoperative note and order
Operative note
Postoperative orders and note
Procedure notes
Transfer note and orders
Discharge note and summary
Sign-out and hands-off
Death note and death certificate

or vomiting) that relate to the condition you believe the patient has

ii. Review of systems: It should not include any repetition of information already mentioned in the past medical history (PMH) or the HPI

iii. PMH: It covers all medical conditions and when they were diagnosed as well as previous surgeries and when they were performed

iv. Medications list and Allergies: Include the name of the offending agent as well as the specific reaction it causes

v. Social history and family history

vi. Physical examination, vitals, and laboratory studies

vii. Assessment and plan (A/P): This is where you put your diagnosis; explain why you think it is correct, other things you considered and excluded and what you plan to do about it. Write this out in a problem-based format touching on the chief complaint as well as anything else you will be treating including chronic active conditions.

Admission order

A typical admission set of orders is shown in Box 1. The mnemonic for this is usually referred to as ADCA VAN DISML. All medications need a: Dose, route (PO, PR, or IV) and frequency (e.g. q6 h). All blood pressure medications should have parameters for when they should be held (e.g. hold labetalol for systolic blood pressure [SBP] <120 or heart rate [HR] <60). Verbal orders are often required in emergency situations but should be avoided otherwise. These orders need to be signed within 24 h. End the admission orders by giving nurses parameters when to call a house officer (for example T >38.5, HR >130 or <60, SBP >180 or <90, respiratory rate >30, O_2Sat <92%, mental status changes, or any acute change in patient's condition). Diet should be specified according to the clinic state [Box 2].

Progress note

It is both required and essential to write a note on every patient every day. It should be something that the author and his/her colleagues can refer to know exactly what has happened to the patient, any recent changes or events and what was done or is planned to be done [Box 3]. Best is to imagine that one is writing it so that a consultant can be kept up to date or a cross cover resident in the middle of the night can know precisely what is happening with a patient with whom he may not be very familiar.

Progress notes are usually documented in a defined structure. This format is referred to as SOAP note; the acronym represents the first letters of the words subjective, objective, assessment, and plan. This note, ideally summaries all past 24 h events, tests, and consults as well current assessment and management plans. If postoperative, always ask about incisional pain and response to pain medications, any fever, nausea or vomiting. Also, document ambulation, voiding, passing flatus and bowel movements.

Event note

It should be written for all unexpected events and should summaries the event and written in SOAP format. Subjective:

Box 1: Typical admission orders

Admit to: Name of service followed by consultant name

Diagnosis

Condition: Critical, guarded, fair, stable, good

Allergies: Specific or NKDA

Vitals: How often you want vitals done (q 6 h in floors and q1 in ICU)

Activities: As tolerated (ad lib), ambulate with assistance, bed rest, restriction is patient specific

Nursing

   Strict I/Os

   Daily weight

   EKG or CXR on arrival

   Incentive spirometry teaching

   NGT to gravity

   Foley to gravity

   DVT prophylaxis

   O_2 to keep O_2Sat >92%

Diet: Regular, liquid, full, NPO, and diabetic diet

IVF: List the rate, type of fluid and how much. Always write an endpoint for fluid. (i.e., start D5 LR at 100 cc/h or saline lock: Which means the nurse periodically flushes the line and no standing IVF)

Specials

   Wound care and dressings

   Consultations

   List all radiology and noninvasive cardiology tests. (e.g., EKG and CT scan)

Meds

Labs

Call H.O: Give nurses parameters when to call a house officer: E.g., T >38.5, HR >130 or <60, SBP >180 or <90, RR >30, O_2Sat <92%, mental status changes, or any acute change in patient's condition

Sign, date, and time

NKDA: No known drug allergy, ICU: Intensive care unit, I/O: Intake and output, EKG: Electrocardiogram, CXR: Chest x-ray, NGT: Nasogastric tube, DVT: Deep vein thrombosis, IVF: Intravenous fluids, CT: Computed tomography, SBP: Systolic blood pressure, HR: Heart rate, RR: Respiratory rate, NPO: *nil per oris*, H.O: House officer

Box 2: Types of diet orders and their characteristics

Regular: No restrictions

Mechanical soft: Soft, easy to chew, and swallow

Full liquids: Food that is liquid at room temperature, milk products

Clear liquids: Liquids that do not stimulate extensive digestive process

Low fat: <30% of calories from fat, lean meat, and skimmed milk used

events and complaints, objectives: vitals, physical examinations, laboratories, and test results, current assessment and management plans, including procedures and consultations as well communications with seniors colleagues, other specialties or with patient and family.

Preoperative note and orders

Preoperative note is an essential checklist written in progress notes before any planned operative procedure [Box 4]. To confirm that all data has been gathered, checked, and that the patient is ready for surgery. Preoperative orders are written before the scheduled operation [Box 5].

Box 3: Contents of an ideal progress note

Subjective: A quick outline of important events in the last 24 h, issues the nursing staff has mentioned, any updates on their condition or any new complaints

Vitals: They are vital and must include numbers in a range of lows and highs over the last 24 h; afebrile is not a vital sign

I/O's: Include totals in and out as well as specifics (what amount out was urine, how much was stool, how much was vomitus, drains, and tubes)

Meds: Copied into the note and updated daily, (from the most recent medication card not from yesterday's note even)

Physical examination: Relevant examination must be documented every day

Labs and tests: Include daily labs, culture results including sensitivities, any new radiographic studies, and results of any procedures performed since the last note

Assessment: A quick, one-liner including the patient's age, sex, and primary problem(s)

Plan: List this out by the issues or for ICU patient, in a system-based format

   Make a problem list which addresses every abnormality from the history, PE, laboratories, and studies

   List them in order of importance

   Any problem which has resolved in the last 24 h should be listed one last time to acknowledge its resolution and then can be dropped from the list

   Each problem should be listed separately along with what you plan to do about it that day and what was done about it the day before

   If the specific plan on an issue is not yet final, one may write, "to be further discussed with team," an addendum note can always be completed later

   Be sure to mention prophylaxis daily (e.g., Nexium, SQ heparin or LMWH) in every note

Sign, date, and time note

ICU: Intensive care unit, I/O: Intake and output, LMWH: Low-molecular-weight heparin, PE: Pulmonary embolism, SQ: Subcutaneous

Box 4: Basic preoperative note

Patient is preoperative for (type of procedure)

Laboratories

   CBC

   Chem 7

   INR, PTT

   Pregnancy test in female

EKG

CXR

Type and screen or type and cross

Consent in chart

Preoperative orders are written

Anesthesia to see patient

CBC: Complete blood count, PTT: Partial thromboplastin time, INR: International normalized ratio, EKG: Electrocardiogram, CXR: Chest x-ray

Operative and Procedure note

Immediately after surgery, an operative note must be written documenting type of procedure with main operative findings and estimated blood loss, type of anesthesia, tubes or drains placed, and specimens sent. A full detailed operative summary should follow. Box 6 shows an ideal short operative note.

Box 5: Preoperative orders

Date, time and sign
NPO postmidnight
Laboratories or other studies if needed
Bowel preparation if needed
IVF: Hep-lock IV, start D5 LR at 100 cc/h
Meds changes
    Holding anticoagulant
    DM or HTN meds adjustments
    PPI or DVT prophylaxis
    Steroid, stress dose if needed
Preoperative antibiotics: As per protocol

DVT: Deep vein thrombosis, IVF: Intravenous fluids, DM: Diabetes mellitus, HTN: Hypertension, PPI: Proton pump inhibitor, NPO: Nil per oris

Box 6: Components of a good operative note

Preoperative diagnosis
Postoperative diagnosis
Procedure: List all procedures
Surgeon
First assistant
Second assistant
Type of anesthesia
IV fluids given: Get from anesthesia records
Estimated blood loss:
Urine output
Drains: Specify site and type
Specimen
Findings
Disposition
Date, time, and sign

Box 7: Components of a comprehensive procedure note

Consent: "Consent was obtained and on kept on file at time of procedure"
Operator: Your name and name of any supervising doctor.
Procedure
Indication
Description of procedure: Including use of aseptic techniques, side, site, and findings
Any complications
Specimens, drains, tests sent
Outcome/comments
Date, time and sign

Box 8: The postoperative note

Date time and sign
S/P: The type of procedure
Subjective: E.g., c/o pain, nausea or vomiting, ambulation, voiding, PO intake, pain control, etc.
Objective
  Tmax, T, BP, P, RR and O_2 saturation
  I/O
    I/O in OR and recovery room
    I/O on the ward
    NGT, foley, drain output
  PE
    General: Awake, drowsy, somnolent, sedated, intubated, etc.
    Chest and heart
    Abdomen and dressing
    Extremities
Assessment and plan (A/P)

I/O: Intake and output, PE: Pulmonary embolism, NGT: Nasogastric tube, S/P: Status Post, PO: Per oris

Also, a procedure note should be written for all invasive procedures including central lines, chest tubes, percutaneous biopsies, and endoscopies [Box 7].

Postoperative orders and note

After surgery, a new set or orders must be written. One of the postoperative visits during the day or evening of operation should be documented as a postoperative note. Boxes 8 and 9 provide ideal postoperative orders and note.

Transfer note and orders

Whenever a patient is transferred from one service to another a note must be written to summarize patient care and ensure proper inter-service communication and decrease possibilities of errors. The transfer note should include a summary of patient's presentations and hospital course. It also summarizes tests, results of consults, and explicitly specifying the diagnosis and treatments. It should state the reason for transfer and specify the accepting service and accepting provider. It should include a detailed medication list and current care and should be dated, timed, and signed. Ideally, a transfer note should be accompanied by a complete transfer orders indicating the transfer service and accepting provider, re-write all patient's orders and plan follow-up.

Discharge plans, summaries, and orders

As a rule, planning for discharge commences on the day of admission. Caring resident should keep touch with patient and the family in regard of discharge planning. He or she should advance diet as appropriate, get any IV, Foley and tubes out, switch antibiotics and other medications to PO form at least 24 h in advance. Discharge summary and prescriptions are written while discharge instructions and follow-up appointments are given [Box 10]. Discharge summaries need to be timely, complete, and accurate. A suitable discharge summary may help prevent adverse events and provide the subsequent treating physician the full medical picture to optimize continuity of patient care. When writing a discharge summary, physicians should ask themselves whether it includes all of the information needed to provide uninterrupted care. As an incomplete discharge summary or one that arrives too late leaves everyone at a disadvantage. Discharge orders must be written in chart and to include: When to discharge, list of medication, other care orders and follow-up appointment. However, do not release till approved by senior resident and consultant.

Sign-outs and hand-offs

Sign-out occurs differently across the various hospitals. In some situations, a designated time and place are arranged, in

Box 9: The postoperative orders

Admit to: Ward versus ICU, (Name of the attending doctor)

Diagnosis: Status Post ……

Condition: Critical, guarded, fair, stable, good

Allergies: Specific or NKDA

Vitals: q 1, 2, 4 h in ward, vascular or neuro checks

Activities: Out of bed in am with assistance, ambulate TID, restriction is patient-specific

Nursing
  Strict I/Os
  Daily weight
  EKG or CXR on arrival
  Incentive spirometry 10/h while awake
  DVT prophylaxis: Heparin 5000u SQ BID/LMW heparin or ted + venous compression device boots
  Drains, foley, and NGT
    NGT to gravity, flush NGT
    Drain to bulb suction. Record drain output q shift

Diet: NPO, clears, full, soft, regular, low-fat diet (Box 3)

IVF: LR at … cc/h for 24 h then change to D5 ½ NS+20 KCl

Specials: Other studies or consults

Meds
  Resume all preoperative meds if suitable
  Pain management
  Stool softener
  Antibiotics
  PPI
  DVT prophylaxis
  Insulin sliding scale

Labs: In recovery room, in evening or morning after surgery

Call H.O if: Give nurses parameters when to call a house officer: T >38.5, HR >130 or <60, SBP >180 or <90, RR >30, O_2Sat <92%, mental status changes, or any acute change in patient's condition

Date, time and sign

NKDA: No known drug allergy, ICU: Intensive care unit, I/O: Intake and output, EKG: Electrocardiogram, CXR: Chest x-ray, NGT: Nasogastric tube, DVT: Deep vein thrombosis, IVF: Intravenous fluids, CT: Computed tomography, SBP: Systolic blood pressure, HR: Heart rate, RR: Respiratory rate, LMW: Low-molecular-weight, NPO: *Nil per oris*, TID: Three times daily; BID: Twice daily, S/P: Status Post, H.O: House Officer

others, you can sign-out whenever all your work for the day is finished. Sign-out has the potential to be a place where "the ball gets dropped;" don't let this happen to you. The most important aspect of the sign-out is assuring that the overnight person knows what to do in case an issue with your patient occurs overnight. Suggested sign-out information is age, sex, significant PMH, admission date, relevant presenting signs and symptoms, important events of the day and significant tests and findings, working diagnosis, and treatment. It is import to include an on call to do list, anticipated events (list things to watch for and what to do?) and contact information (family member) if pertinent. Use of the mnemonic SAIFIR shown in Box 11 is very helpfull.

In the event of death

When physicians are called on to pronounce death. Certain steps must be performed: On arrival to the bedside, the patient should be observed for respirations, auscultate for heart sounds,

Box 10: Essential components of the discharge summary*

Patient presentation

Admission diagnosis: List the primary diagnosis first followed by all other conditions which were acute and treated on that admission, leave out chronic conditions

Hospital course: As descriptive as possible including how the patient presented, what was done for him/her, how they responded, what was done next. List consultations called and procedures performed

Treatments and procedures

Important tests and consults

Discharge diagnosis

Discharge medications

Treatments plans: To include diet, activities, wound care, and other specialized care

Follow-up plans

Emergency flags for return or calling

Date, time, and sign

* A summary of patient's presentation and hospital course

palpate for a pulse, and attempt to elicit a corneal reflex. The exact time of death need to be agreed with the nursing staff. Notify the attending physician and family immediately, even in the middle of the night. Complete a death note in the progress note section of the chart. Consider including the following information: "Called by nursing staff to see patient regarding unresponsiveness. The patient was found to be breathless, pulseless, and without heart sounds, blood pressure, and corneal reflexes. The patient was pronounced dead at (time and date). The patient's physician and family were notified." Death certificate is an important legal document. It should be filled out completely, accurately and promptly. An assessment of the cause of death should be included. When completing a death certificate, the doctor should print or write clearly, write his/her name in block letters, sign, date, and time the certificate. In addition, record clearly the deceased exact name and demographics as well as accurate time and place of death. It is advisable not to use the following in death certificates: a non-specific term as the modes of dying (e.g., "heart failure" or "cardiopulmonary arrest"), major organ failure such as "congestive heart failure" as an underlying cause of death, terms such a ("asthenia" or "cachexia"), terms that may be misinterpreted as "cerebrovascular accident," the term "natural cause" and do not use abbreviation or medical symbols such as "#" for fracture.

Conclusions

The practice of medicine involves management of large amounts of information, making the medical record the cornerstone of communication and documentation. Therefore, written communication is an important skill for all physicians and the rule of thumb is "If it is not documented, it does not exist". Proper documentation is required to record pertinent facts, findings and observations about a patient's health history including past and present illnesses, examinations, tests, treatments and outcomes. Moreover, good documentation describes what information is given to the patient and the

Box 11: Sign-outs and hand-offs

S → Summary: To be given in 1 or 2 sentences

A → Active issues: Things the team is addressing that may come up overnight

I → If/then: A series of scenarios that may occur and what to do about it

F → Follow-up: All laboratories, test, etc., specifically that need to be followed up

I → Interactive questions: From the receiving H.O. to the handing H.O.

R → Read back: Confirmation by the receiving intern of all he/she has heard

H.O: House officer

patient's response. This includes notes about informed consent, the patient's questions, the physician's answers, and any information given to the patient about next steps or follow up. In addition to eligibility and avoiding using unrecognized abbreviations, particular emphasis must be placed on the five factors: Accuracy, objectiveness, completeness, timeliness and confidentiality. Physicians should only make changes to ensure that the medical record is relevant and accurate. It is important to preserve the original entry and then to write, sign and date any additions or changes. Inadequate notes are open to misinterpretation or are simply unhelpful in providing care to the patient or in demonstrating what took place. Short falling of proper documentation is: Writing illegible, failing to write a note or orders, forgetting to write an immediate operative note on chart, not entering time and date, not naming a diagnosis when ordering a test or treatment or failing to note interaction with family and relatives. Macros and templates may be valuable in improving the completeness and efficiency of documentation.[8] Patient records have been stored in paper form for centuries. Over time they have required a large area of storage leading to notably delayed access, which is limited to one person at a time.[11] Legibility is another major issue and paper-based records are not durable and susceptible to both water and fire.[11]

Electronic Health Records (EHRs) are computerized medical information systems that collect, store and display patient information and are intended to replace existing paper based medical records. Perceived advantages of EHRs can be: Creating legible and organized records, improving access to patient medical information, reducing errors and reducing of papers while forming a data repository for research and quality improvement.[12] Therefore, EHR is having a great potential for improving quality, continuity, safety and efficiency in healthcare. However, the barriers of implementing HER across the world are: high start up cost, need for staff training and continuous technical support, limitations of some systems with lack of customization and concerns for patient privacy and confidentiality.

Authors' contribution

All authors contributed substantially to the conception, drafting, and revision of this manuscript. They all approved its final version.

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Compliance with ethical principles

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