Departmental collaborative approach for improving in-patient clinical documentation (five years experience)

Eyad Almidani a, *, Emad Khadawardia a, Turki Alshareef a, Sermin Saadeh a, Fouzah Alrowaily a, Weam Elsaidawia b, Raef Qeretlia b, Rania Alobaric a, Sami Alhajjar a, Saleh Almofadab c

a Department of Pediatrics, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia
b Medical and Clinical Affairs, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia
c Quality Management, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia

A B S T R A C T

Introduction: Health care institutes are cooperative areas where multiple health care services come together and work closely; physician, nurses and paramedics etc. These multidisciplinary teams usually communicate with each other by documentation. Therefore, accurate documentation in health care organization is considered one of the vital processes. To make the documentation useful, it needs to be accurate, relevant, complete and confidential.

Objectives: The aim of this paper is to demonstrate the effect of the collaborative work in the Department of Pediatrics on improving the quality of inpatient clinical documentation over 5 years.

Methods: Improving clinical documentations went through several collaborative approaches, these include: Departmental Administration involvement, establishment of quality management team, regular departmental collaborative meeting as a monitoring and motivating tool, establishment of the residents quality team, Integration of quality projects into the new residents annual orientation, considering it as a part of the trainee personal evaluation, sending reminders to the consultants and residents on the adherence for admission note initiating and 24 h’s verification, utilization of standardized template of admission note and progress note and emphasizing on the adherence to the approved medical abbreviation list only for any abbreviation to be used.

Results: During the period between the first quarter of 2012 to the fourth quarter of 2017; a significant improvement was noticed in the overall in-patient clinical documentation compliance rate, as it was ranging from lower 50% in 2012 and 2013, and increased gradually to reach upper 80% in the last quarters of 2016 and 2017. These figures are based on an independent audit that being done by the hospital quality management department and received by the department in a quarterly basis.

Conclusion: Despite multiple challenges for improving the compliance for clinical documentations, major improvement can be achieved when the collaboration and efforts among all stakeholders being shared and set as a common goal.

© 2018 Publishing services provided by Elsevier B.V. on behalf of King Faisal Specialist Hospital & Research Centre (General Organization), Saudi Arabia. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

The importance of clinical documentation has been recognized very early in the history of medicine. It goes back to the ancient time and has undergone several changes in its content and scopes since then. In the past two centuries, they called a variety of records that is generated by literate men, including medical profession, as “Casebooks”. Theodore de Mayerne, famous Huguenot and Royal physician, has probably the most extensive surviving casebooks which he called “observations medicine” [1]. The evolution, uses and development of these records over time can be observed over two centuries from the records of The New York Hospital [2]. Nowadays, clinical documents have become more complicated
and detailed. It represents the thoughtful process of health care providers and their decision’s rationale. It is the main vehicle to transfer and store patient’s health conditions and their needs. Its importance and complexity have grown alongside the development of health care systems and information technologies [3]. Proper and accurate clinical documentation could improve the quality of care provided especially in those with chronic diseases [4,5]. If structured in templates, it may enhance the trainees’ knowledge and early recognition of subtle conditions [6]. Moreover, legal clinical documentation is essential component of quality accreditation agencies surveys. Despite the doubts about its benefit, the interest in these accreditations has increased as a reflection of the increasing awareness of the public about medical errors and malpractice. The interest has switched to the hospital compliance to the accreditation requirements and their ability to maintain valid ones. Therefore, it will be of particular importance to health care institutions to develop and monitor appropriate documentations policies [7–9].

When it comes to the economic impact, appropriate clinical documentation plays critical role too. In the recent years, many health care institutions have linked the patient’s visit cost to a specific coding system that requires appropriate documentation. Some physicians find this coding system complicated and time consuming [10]. This issue becomes more complex in teaching hospitals where inadequate and inappropriate coding and documentation may result in loss of revenue, exaggerated cost or delayed reimbursements [11,12].

Other aspects that give the clinical documentation vivid challenges are the emerging information technologies. Electronic-based medical record (EMR) has dramatically replaced paper-based documentation in many institutions. Many other new information technologies are expected to improve the patient care and enhance the physician performance. It was shown that EMR would eliminate many concerns associated with paper-based medical records like illegible handwriting, ambiguous and incomplete data, data fragmentation, and poor availability [13]. However, the cognitive and social interactions between these emerging technologies, physicians and their patient have changed our reasoning, decision making and, of course, clinical documentation [14]. Also, EMR and the accessibility to it, especially for minors, have raised concerns about confidentiality and privacy [15]. The debate about its content and structure is still needed to be examined more to achieve a good quality and more user-friendly content [9,16,17].

King Faisal Specialist Hospital & Research Center (KFSH&RC) was officially opened by His Royal Highness King Khaled Ibn Abdulaziz Al Saud more than 40 years ago. It is a state-of-the-art Joint Commission International (JCI)-accredited tertiary care hospital and American Nurses Credentialing Center (ANCC) Magnet designation. KFSH&RC has over 18,000 employees, of 65 different nationalities working in different health care and administrative areas.

The facility is the national referral center for oncology, organ transplantation, cardiovascular diseases, neurosciences and genetic diseases. It also specializes in medical, surgical, pediatrics, perioperative, obstetrics/gynecology, research, education and outpatient and Health Outreach Services.

KFSH&RC’s internship, residency and fellowship programs are organized in collaboration with Saudi Commission for Health Specialties.

The objective of the residency program in Pediatrics is to provide outstanding education in pediatric medicine while delivering the highest caliber of patient care. The program provides the residents with strong foundation in general pediatrics and allows excellent exposure to all subspecialty care at King Faisal Specialist Hospital and Research Center (Gen. Org.), which make the program have the broadest patient population.

Residents are the key people for clinical documentations in our hospital. They learn to treat common diagnoses and see diagnostic dilemmas that are presented in a tertiary center. In the core of their training is how to document clinical care properly. They are expected to write daily progress notes admission, discharges etc.

Poor documentation in both paper-based medical record and EMR has been an ongoing concern especially from faculty staff [18,19]. We have been facing this issue in our institution as well. Therefore, we have done several intra departmental steps to improve the compliance to our clinical documentation for both paper-based charts and EMR whenever applicable. Our goal was to educate our staff member about its importance and achieve the quality target that has set by our quality control committee. We will present here our efforts and findings.

2. Objectives

The aim of this paper is to demonstrate the effect of the collaborative work in the Department of Pediatrics on improving the quality of inpatient clinical documentation over 5 years.

3. Methodology

We proposed improving clinical documentations through several collaborative approaches, which include:

3.1. Administration involvement

Improving staff performance and maintaining the highest level of quality, patient safety and experience will be achieved by continuous monitoring, feedback and coaching by health care administration.

Departmental administration ensures the availability of qualified manpower resources, proper training and education to achieve the desired goals that are measurable, attainable and aligned with the organization’s vision, mission and strategic priorities.

Clinical documentation is one of the measures to monitor the quality and the outcome of patient management. On a daily basis, patient care must be documented properly as per standards of national and international accreditation institutions and the administration provides constructive feedback and coaching once needed and participate in initiating and updating documentation standards and policies.

3.2. Establishment of quality management team

Establishment of quality management team, which started on January 2012, was a strategy to formulate a team who are receiving regular updated reports about the progression of quality improvement plan, evaluating the quality of documentation of the physician, emphasizing on the importance of timing in writing admission and discharge notes as well as reconciliation of medications, finding deficient area in documentation and creation of different solutions to overcome this deficiency.

3.3. Departmental collaborative meeting

Collaborative meetings started on July 2012. It involves a group of medical practitioners from different professions in the Department of Pediatrics who share patient care goals and have responsibilities for complementary tasks on an ongoing basis. The departmental collaborative meeting is held on a regular basis to discuss all quality measures and performance of the department,
the progress in improving the quality of writing the documents, to
correct the weaknesses and emphasize on the strength points of
staff, and to discuss deficient areas and find solution to solve it.

3.4. Establishment of resident quality team

The quality of patient service is an important part of the daily
activities of the pediatric resident, and in order to reach the opti-

umum patient care, on November 2014, we established the Resident
Quality Team. The team consists of medication reconciliation group,
admission note group and discharge note group.

The medication reconciliation group reviewed the medication
reconciliation for all newly admitted, transferred and discharged
patients on daily basis to make sure each patient get supplied with
the required medications without missing or duplicating any, and
to make sure the patient is receiving the medications with the
correct dose.

Admission note group reviews the admission note of all newly
admitted patients to the pediatric ward, NICU and PICU and checks
if the resident is following the template of the note and has the
right content. They also make sure the resident signs the note and
then send it to the admitting consultant for signature.

The discharge note group follows the patient admitted for 5 days
or longer and make sure there is an informative and well summa-
rized discharge note started for the patients. The target for the team
is to discharge all the patients from the hospital with the discharge
summary signed by the resident and the treating consultant. If
there is any delay, they will contact the primary resident to initiate
the note as soon as possible.

This team is under supervision from the head of quality service
in the department, residency training program director and the
chairman of the Pediatric Department.

3.5. Integration of quality projects into the new resident annual
orientation

The residents play a very important role in the quality process of
the hospital. Since October 2014, it became mandatory for all res-
idents to attend the departmental orientation where the patient
quality of care is the corner of it. The head of the quality in the
department will lead the quality discussion and orient them about
the various quality projects in the department. A representative
from each group of the resident quality team will give a talk to
orient the new residents before getting involved in the service. The
new residents are also required to attend the hospital quality
orientation which involves the hospital policies, safety measures
and patient care.

3.6. Making it part of the trainee’s personal evaluation

The residency training program in the hospital is supervised by
the Saudi Commission for Health Specialties which requires
monthly and yearly evaluation of the trainee. The quality of patient
care is part of the monthly evaluation for the residents and done by
the supervising consultant. The trainee is required to pass the
quality evaluation in addition to other parameter in order to pass
the block evaluation. The annual evaluation of the trainee by the
program director contains great emphasis on the quality of pa-
tient’s care and input from the chairman of the quality service in
the department. In addition to this, the quality of patient care of the
trainee is part of the criteria of choosing the best resident of the
month and the resident of the year which motivate the trainee to
perform better in the daily work and improve the patient’s care.

3.7. Sending reminders to the consultants and residents on the
adherence for admission note initiating and 24 h’s verification

The resident’s quality team, under direct supervision from the
head of the quality in the department and the pediatric residency
training program director and the chairman of the pediatric
department, check the admission note on a daily basis. The
admission note should be appropriate and follow the admission
note template in the system. It should be signed within 24 hours
from the patient’s admission by the admitting resident and
consultant. If there is any delay or improper information in the
note, the admission note quality group will contact the concerned
physician directly to maintain the target of having all admission
note signed within 24 hours from the admission.

3.8. Template of admission note

History taking and clinical examination are very important tools
to reach the patient’s diagnosis. In order to help the resident to
remember the important parts in the history and physical exam-
ination, the admission note template was created on April 2017. It
consists of mandatory blanks and checklists to be filled. The note
involves the time of interviewing the patient, diagnosis, problem
list, primary consultant, history, physical examination, inves-
tigations and treatment. The vital signs, investigations, radi-
ology and medications can be recalled from the system to the
admission note directly using the integrated hospital system. After
writing the admission note, the resident is required to sign it
electronically and send it to the admitting consultant to be signed
within 24 hours of the admission.

![Fig. 1. Quarterly Departmental Clinical Documentations’ compliance rate.](image-url)
3.9. Progress note standard format

S.O.A.P format is being used as a standard in our department to make sure that patient complaint, examination and all laboratory and radiological investigations as well as patient plan of care and other important information are included in daily progress note, this format was launched on January 2015 in the general wards, on April 2015 in PICU, and on June 2015 in NICU and.

3.10. Approved medical abbreviations list

Approved medical abbreviations are used by health care facilities to support unified and standardized documentation in patient health information.

The staff were kept regularly updated about the most recent updated list of approved abbreviations to be used in medical documentations, prescriptions and orders. This list includes all
abbreviations that are frequently used. All medical staff should adhere to these abbreviations to avoid any error that can interfere with patient safety.

4. Results

During the period between the first quarter of 2012 to the fourth quarter of 2017, a significant improvement was noticed in overall in-patient clinical documentation compliance rate. It was ranged around lower 50% in 2012, and increased gradually to reach upper 80% in the last few quarters of 2016 and 2017 (Fig. 1). These figures are based on an independent audit done by the hospital quality management department and received by the department in a quarterly basis.

The audit process is as following:

A random 10 charts per department/medical services per quarter are audited for admitted patients (Fig. 2). If the result showed equal or more than 90% compliance, then the department will be considered as compliant with hospital target. If the result ranged between 76% - 85% compliance; then the department will be considered to have an area for improvement. While if the result showed equal or less than 75%; then the department will be considered as having severe deficiency or non-compliant.

5. Discussion

Health care in general is based on a cooperative practice approach and a lot of services gather and work together, for example: physicians, trainees, nurses, pharmacists, and respiratory therapists. These teams communicate with each other mainly by documentation, for which, proper and accurate documentation in patient medical records is considered one of the vital process [20]. To make the documentation appropriate, it needs to be accurate, relevant, clear, complete and confidential.

Incorrect handwriting or no documentation may negatively affect the quality of documentation through less accuracy, less accessibility, and may result in harm that affects the care given for the patients. This reduced quality may influence several major areas in the health care (2), for example:

- Patient safety, the inaccurate documentation may alter the patient care.
- Failure to collect information on a proper time at the provider level in response to epidemics which may affect the public health.
- Proper continuity of patient care anywhere else.
- Compromising health care economics.
- Alteration of the accuracy of the clinical research and outcomes analysis by missing of proper channels of data.

Documentation in general has two parts: information captures and report generation. Information capture contains handwriting documents, video recording, nursing notes and radiological images. Report generation contains analyzing the data and identifying the area of weakness and strength in the health care system [21]. Engaging physician and other stakeholders in clinical documentation improvement projects is needed to ensure and maintain the success of any project, and still, this may not be enough to improve the quality of the documentation, without the engagement of the higher authority in any organization [22].

In general, overall improvement of the clinical documentations would not be achieved without proper collaborative approaches among all stakeholders.

6. Conclusion

Despite multiple challenges for improving the compliance in clinical documentations, the improvement can be achieved when the collaboration and efforts among all stakeholders are being shared.

7. Limitations

The number of audited charts.

Conflicts of interest

No conflict of interest.

Ethical approval

RAC # (2180023).

Acknowledgment

We thank the Department of Pediatrics Research Unit, Medical Records Department, Health Information and Technology Affairs (HTA), Nursing Affairs, Case Management and all members of the Department of Pediatrics at KFSh&Rc in Riyadh for the collaborative work in collecting these data and their contribution for its improvement. We also thank Medical and Clinical Affairs and the hospital Quality Management team for auditing and reporting the data.

References

[1] Kassell L. Casebooks in early modern England: medicine, astrology, and written records. Bull Hist Med 2014;88(4):595 – 625.
[2] Engle Jr RL. The evolution, uses, and present problems of the patient’s medical record as exemplified by the records of the New York Hospital from 1793 to the present. Trans Am Clin Climatol Assoc 1991;102:182–9. discussion 189–192.
[3] Mamykina L, Vawdrey DK, Stetson PD, Zheng K, Hricak G. Clinical documentation: composition or synthesis? J Am Med Assoc 2012;196(1); 1025–31.
[4] Chase HS, Radhakrishnan J, Shrizian S, Rao MK, Vawdrey DK. Under-documentation of chronic kidney disease in the electronic health record in outpatients. J Am Med Inf Assoc 2010;17(5):598–94.
[5] Samal L, Linder JA, Bates DW, Wright A. Electronic problem list documentation of chronic kidney disease and quality of care. BMC Nephrol 2014;15:70.
[6] Shrizian S, Wang R, Molelina D, et al. A pilot trial of a computerized renal template note to improve resident knowledge and documentation of kidney disease. Appl Clin Inf 2013;4(4):528–40.
[7] Devkaran S, O’Farrell PN. The impact of hospital accreditation on clinical documentation compliance: a life cycle explanation using interrupted time series analysis. BMJ Open 2014;4(8): e005240.
[8] Greenfield D, Braithwaite J. Developing the evidence base for accreditation of health care organisations: a call for transparency and innovation. Qual Saf Health Care 2009;18(3):162–3.
[9] Thompson HC, Barron SJ, Connelly JP, et al. Overview statement on medical records. Pediatrics 1975;56(2). 329
[10] Lasker RD, Marquis MS. The intensity of physicians’ work in patient visits — implications for the coding of patient evaluation and management services. N Engl J Med 1999;341(5):337–41.
[11] Yount KW, Reames BN, Kennisinger CD, et al. Resident awareness of documentation requirements and reimbursement: a multi-institutional survey. Ann Thorac Surg 2014;97(2):s58–64. discussion 864.
[12] Kapa S, Beckman TJ, Cha SS, et al. A reliable billing method for internal medicine resident clinics: financial implications for an academic medical center. J Grad Med Educ 2010;2(2):181–7.
[13] Roskema J, Los BK, Bleeker SE, van Ginneken AM, van der Lei J, Moli HA. Paper versus computer: feasibility of an electronic medical record in general pediatrics. Pediatrics 2006;117(1):15–21.
[14] Patel VL, Kushniruk AW, Yang S, Yale J-F. Impact of a computer-based patient record system on data collection, knowledge organization, and reasoning. J Am Med Inf Assoc: JAMIA 2000;7(6):569–85.
[15] Privacy Protection of Health Information. Patient rights and pediatrician responsibilities. Pediatrics 1999;104(4):973–7.
[16] Rosenbloom ST, Denoy JC, Xu H, Lorenzi N, Stead WW, Johnson KB. Data from
clinical notes: a perspective on the tension between structure and flexible documentation. J Am Med Inf Assoc 2011;18(2):181–6.

[17] Koopman RJ, Steege LM, Moore JL, et al. Physician information needs and electronic health records (EHRs): time to reengineer the clinic note. J Am Board Fam Med 2015;28(3):316–23.

[18] Asghari Z, Mardanshahi A, Farahabadi EB, et al. The quantitative study of the faculty members performance in documentation of the medical records in teaching hospitals of Mazandaran University of medical sciences. Mater Sociomed 2016;28(4):292–7.

[19] Mony PK, Jayanna K, Varghese B, Washington M, Vinothi P, Thomas T. Adoption and completeness of documentation using a structured delivery record in secondary care, subdistrict government hospitals of Karnataka state, India. Health Serv Res Manag Epidemiol 2016;3. 2333392816647605.

[20] Schoop M, Wastell DC. Effective multidisciplinary communication in health care: cooperative documentation systems. Method Inf Med 1999;38(4–5): 265–73.

[21] Waegeman CPTC, Barbash A, Blumenfeld BH, Borden J, Brinson Jr RM, Cooper T, Elkin P, Fitzmaurice JM, Helbig S, Hunter KM, Hurley B, Jackson B, Maisel JM, Mohr D, Rockel K, Schneider JH, Sullivan T, Weber J. Health care documentation: a report on information capture and report generation medical records institute. 2002.

[22] R L. Recognizing the value of clinical documentation improvement. 2014. http://www.healthcare-informatics.com/article/recognizing-value-clinical-documentation-improvement. [Accessed 8 December 2017].