Reasons and Incidence of Multiple Registrations by Patients in Repeat Dental Visits in a Tertiary Facility

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ABSTRACT

Objective: To seek information on patients' knowledge of the purpose of the hospital registration card and of the importance of documentation of their dental records in the hospital folders.

Methods: An observational prospective study carried out in the Oral Diagnosis clinic of the Dental center of Central Hospital Benin from October, 2018 to October, 2019. Patients with a new case folder that have been clerked by the primary care dentist filled a questionnaire.

Results: Out of the 580 patients that met the inclusion criterion, 62% were females. Thirty one percent of patients registered multiple times, 23% having registered twice thereby having duplicate folders. Forty percent of patients with triple folders visited the clinic between 2 to 5 years ago. As to the whereabouts of their previous registration card, misplaced cards accounted for up to 71% for patients that registered for the second time and 60% for patients that registered the third time or more.

Seventy four percent of patients registering for the second time did not believe they would visit again after the last time, that was why they did not keep their registration cards properly. Eighty four percent of 3rd time or more registered patients revealed that the registration card was for reference or for subsequent visitation. Forty five percent registered for the second time believed documenting their information was important for proper treatment/ drug administration while 22% of same felt the questions asked was not relevant to problem that brought them to the clinic.

Conclusion: The primary function of patients' records is to support care. Challenges that lead to multiple dental records which is a direct consequence of multiple registrations by returning patients is complex. One folder per patient can improve patient care and doctors' performance.

Keywords: Multiple registrations, multiple folders, continuing care.

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Received: 30-April-2020
Revision: 22-August-2020
Accepted: 29-August-2020

Citation: Osaghae IP. Reasons and incidence of multiple registrations by patients in repeat dental visits in a tertiary facility. Nig J Dent Res 2021; 6(1):8-17.

INTRODUCTION

Multiple patient records has been recognized as a major problem in health facilities in some developing countries and other parts of the world.[1-3] With the existence of multiple records for a single patient, it is likely that healthcare providers will miss critical information because it is located in the duplicate.[4] The dental record, also referred to as the patient

chart, is the official document that records all diagnostic information, clinical notes, treatment given, and patient-related communications that occur in the dental clinic.[5]These notes which can be in a paper file or electronic format are vital for the care of patients as they document each episode for future reference.[6]

The opening of a case note file is triggered by the arrival in the hospital of a patient who has not been registered before; the most usual circumstance for the retrieval of an existing file is the re- attendance of a patient who has visited the hospital before.[6]

Every newly registered patient is assigned a hospital number in the records' department. This Medical Record Number (MRN) is the critical link between a patient and the patient's medical records. It serves as a patient's identity within the hospital. The correct assignment of a new MRN and retrieval of an existing MRN is critical to continuity of patient care and medicolegal reasons.[7] Dental professionals are compelled by law to produce and maintain adequate patient records,[5] and is critical in the event of a malpractice insurance claim.[8]

The primary purpose of keeping dental records is for good quality patient care and means of communication between the treating dentist and any other doctor who will care for that patient. Dental records also have an important role in teaching and research. Since dental remains are usually the last to get destroyed among body parts after death, dental record may be useful for personal identification in cases of mass disasters, decomposed unidentified bodies and assisting at the scene of crime.[8]

Duplicate medical records occur when one patient is associated with more than one medical record number.[3] This can result from patient factors and/or factors associated with the records department.[1] Often access to these duplicate records is not possible on patients' review. Treating patients without complete information poses an important challenge to patient safety, increasing the likelihood of medical errors, adverse events, duplication of laboratory tests and procedures, and increased health care costs.[9-11] The existence of duplicate records in a healthcare system is one of the most critical issues currently facing health information technology (HIT) departments.[3]

With the increasing awareness among the general public of legal issues surrounding healthcare, and with the worrying rise in malpractice cases, a thorough knowledge of dental record issues is essential for the prevention of such legal problems associated with duplication of records. Previous work on duplicate records have focused on contents in the documentation[5] and maintenance of medical records where patients' factors in the creation of duplicate records have been mentioned but not focused on.[1,2]

Direct patient factors, has been observed to lead to the issuance of new patient medical records, which in most cases resulted in multiple patient folders. Patients attending the hospital without their identity has led to issuance of new folders.[1] Direct patients' factors in multiple dental registration and the resulting multiple patient file folders it generates has not been sufficiently studied in Nigeria.

The objective of this study was to seek information from the patients on their knowledge of the purpose of the hospital registration card and of the importance of documentation of their dental records in the hospital folders. Results from the information elicited will provide a useful template for any future intervention in the form of patient education. This can be carried out in the waiting room. Policy creation on the part of the hospital for the prevention of duplicate records can also be an outcome of this study. The significance of this information to clinical care of the patient is that all documentation concerning patient care is housed in the same folder for completeness of continuity of care for both the attending doctor and the patient's good.

MATERIALS AND METHODS

Setting and design: This was strictly an observational study carried out in the Oral Diagnosis clinic of the Dental center of Central Hospital Benin from October, 2018 to October, 2019.

Patient selection: All patients that were observed with a new case folder and that have been clerked by the primary care dentist in the oral diagnosis department. Before consent was taken, patients were informed that the information to be requested from them concerned their small and big hospital cards and had no bearing on what brought them to the hospital. All patients agreed.

Exclusion criteria were:

- Accident and emergency patients (trauma; other reasons for acute cases.);
- Referred patients: The reason being that referred patients were either patients from other units who had other case notes or from Accident & Emergency;

- National Health Insurance (NHIS) enrollees: the reason for exclusion is that NHIS enrollees have their folders in the NHIS office and were discovered from the pilot study that they have already been instructed concerning their cards (registration and folders);
- Post NHIS enrollees because Post enrollees have previous knowledge from above;
- Patients that have visited other dental clinics previously: from the pilot study, it was discovered that adding them may add an element of bias to the study;
- Those patients that brought their registration cards but folders could not be located by Records clerk and were given new folders bearing their old MRN.

The methodology was simply by use of a questionnaire that was created by the author and adapted to the needs of the subject under review due to lack of previous methodology in literature.

Two pilot studies were carried out on increasing number of patients at different times before the final questionnaire was prepared. This was done to gather the information necessary to improve the quality of the questions asked; to assess the patients' understanding of the questions and how best to frame such questions for them to understand; to add more questions to increase the depth of the information required; and finally, to elicit the appropriate exclusion criteria.

Data from above was analyzed to check if the intended focus of the study was met.

The patients' factor mentioned by another writer was patients attending the clinic without their registration cards,[1] and this was incorporated in the questionnaire as one of the information elicited from the patients.

This questionnaire was prepared with the intention of the patients expressing themselves without leading them on or suggesting answers to them on the factors surrounding their hospital attendance without their registration cards.

The questionnaire was in three (3) sections:

Section 1: demographic data and dental registration pattern;

Section 2: was to elicit information of reasons patients were not in possession of their previous registration cards; if they made any attempt to retrieve their previous cards; and how many times they had registered at the time of the study.

It consisted of the following questions:

- When was the last time you registered?
- What happened to your old registration card?
- Did you think you will visit the clinic again?
- Did you inform the record clerk that you have registered before?
- If answer is no; then why not?
- How many registration cards have you collected up to this visitation?

Section 3 was an attempt to find out if the patients had knowledge of the actual use of the registration card; the reasons information is elicited from them; and why their information is documented on a file. It consisted of the following questions:

- Do you know the purpose of the registration card?
- Do you think it is necessary for the doctor to ask these questions and document your information in a file?

Patients registering for the first time answered questions in sections 1 and 3 only;

Sections 1, 2 and 3 were answered by repeat patients who had registered three times or more;

While patients registering for the second time answered questions in all sections except the question "how many new registration cards have you collected up to this visitation?"

The purpose of the study was not to compare the results of the different groups but to elicit information from these different categories of patients.

Data analysis: In the sorting, all questionnaires that were not properly filled were removed.

Similar responses with the same meaning were first grouped together for all open ended questions during manual sorting. Different responses were then tabulated. For the closed-ended questions, they were tabulated as stated in questionnaire.

For patients registering for the third time or more, the number of cards they have collected by this process was tabulated separately.

The Microsoft Excel 2010 software was used to compile and analyze all the grouped variables.

Data was compiled based on patient registration pattern into first time registration; second time registration and equal or greater than three times registration.

Given that this assessment is descriptive in nature, analysis primarily took the form of percentages in charts and tables

RESULTS

The number of patients that filled the questionnaire after the pilot study was 700. After sorting, correctly filled came to 580. Figure 1 shows the total number of patients (580) that met the inclusion criterion. A female preponderance of 62% was observed.

Table 1 reveals the age range in years. It shows clearly that the age ranges of 21 to 30years and 31 to 40years were more in number and account for about 45% of the total.

Table 2 shows that the level of education did not play an important role in the prevention of multiple registrations. It can be clearly seen from the table 2 that patients with tertiary education made up the highest percentage at 54% among those that registered for the second time and 53% among those that registered for the third time or more.

From table 3, it is observed that 31% of total number of patients registered more than once out of which 8% registered three times or more resulting in corresponding numbers of different dental folders in the records department.

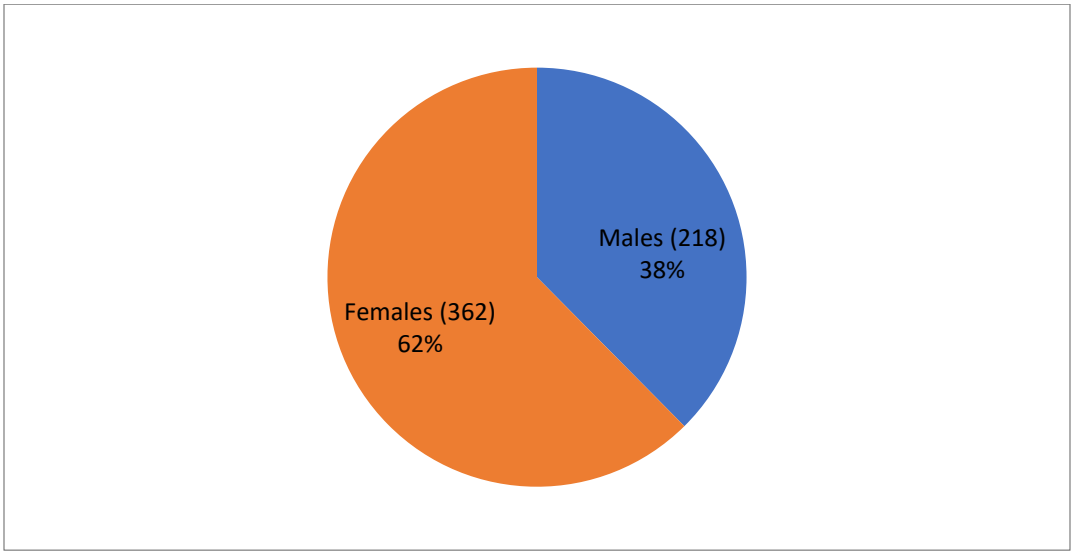

Figure 1: Gender of participants

Table 1: Age range of the participants

Age range (years)	Male n (%)	Female n (%)
4-10	5 (2)	3 (1)
11-20	26 (12)	43 (12)
21-30	44 (20)	92 (25)
31-40	52 (24)	76 (21)
41-50	39 (18)	63 (17)
51-60	21 (10)	54 (15)
61-70	24 (11)	19 (5)
≥70	7 (3)	12 (3)
Total	218 (100)	362 (100)

Table2: Educational status of the participants

Registration Pattern	Level of education			
	Nil	1°	2°	3°
	n (%)	n (%)	n (%)	n (%)
First time registration	9 (2)	51(13)	164 (41)	177 (44)
Second time registration	2 (1)	24 (18)	36 (27)	72 (54)
≥Third time registration	2 (5)	4 (9)	15 (33)	24 (53)

Table 3: Dental registration pattern of the participants

Registration Pattern	Number	Percent (%)
First time registration	401	69
Second time registration	134	23
≥Third time registration	45	8

Section 2:

- When was the last time you registered?

Response to the question concerning the last time patient registered (table 4) was observed to be from up to one year to above 18years. Those that registered between 2 to 5 years ago were up to 40% accounting for the highest number. Within a period of one year, 22% of patients had re-registered multiple times.

- What happened to your old registration card?

When asked the whereabouts of their previous registration card (Table 5), those that lost or misplaced their cards accounted for up to 71% of patients that had registered the second time and 60% of patients for the third time or more. Seventeen percent of patients among those registering for the second time discarded their cards after use the first time.

- Did you think that you will visit the clinic again?

The response to whether the patients felt they will visit the clinic again (Table 6) ties closely to the response deduced from the whereabouts of the old registration cards. Categorically, 74% of patients registering for the second time were certain they will not visit the clinic again.

- Did you inform the Record Clerk that you have come before?

Eighty five percent (114) of patients that registered the second time and 82% (37) of patients that registered third time or more did not inform the records clerk that they had visited the clinic previously (Figure 2). This response reveals patients' knowledge of the importance of previously documented information.

- If no, then why not?

The response to this question buttresses the previous responses given by the patient as regards their knowledge of the importance of records documentation (table 7). Forty two percent of patients that registered twice and 43% of patients that registered three times or more, felt it was not necessary to inform the records' clerk. In addition, 47% and 46% of these same patients did not volunteer the information because they were not asked.

- How many new registration cards have you collected? (≥third time registration only)

This question was for patients that had registered three times or more (Table 8). A total of 80% admitted to registering thrice thereby having 3 file folders with three different MRN. Two percent of patients were discovered to have registered for more than 7 times with 7 folders and more domiciled in the records department.

Table 4: Time of last registration among the participants

Registration pattern	Up to 1 year n(%)	2-5years n(%)	6-9years n(%)	10-13years n(%)	14-17years n(%)	≥18 years n(%)
Second registration	32 (22)	55 (38)	23 (16)	17 (12)	7 (5)	10 (7)
≥Third registration	10 (22)	18 (40)	6 (13)	7 (16)	3 (7)	1 (2)

Table 5: Information on previous registration card among the participants

Registration pattern	Lost/ Misplaced n (%)	Forgot it at home & decided to take another n (%)	Discarded old card/Did not bother to keep it n (%)	Moved away from home/No longer at home n (%)
Second registration	95 (71)	7 (5)	23 (17)	9 (7)
≥Third registration	27 (60)	4 (9)	6 (13)	8 (18)

Table 6: Subsequent visit among the participants

Registration pattern	No n (%)	Maybe n (%)	Yes n (%)
Second registration	99 (74)	14 (10)	21 (16)
≥Third registration	23 (51)	13 (29)	9 (20)

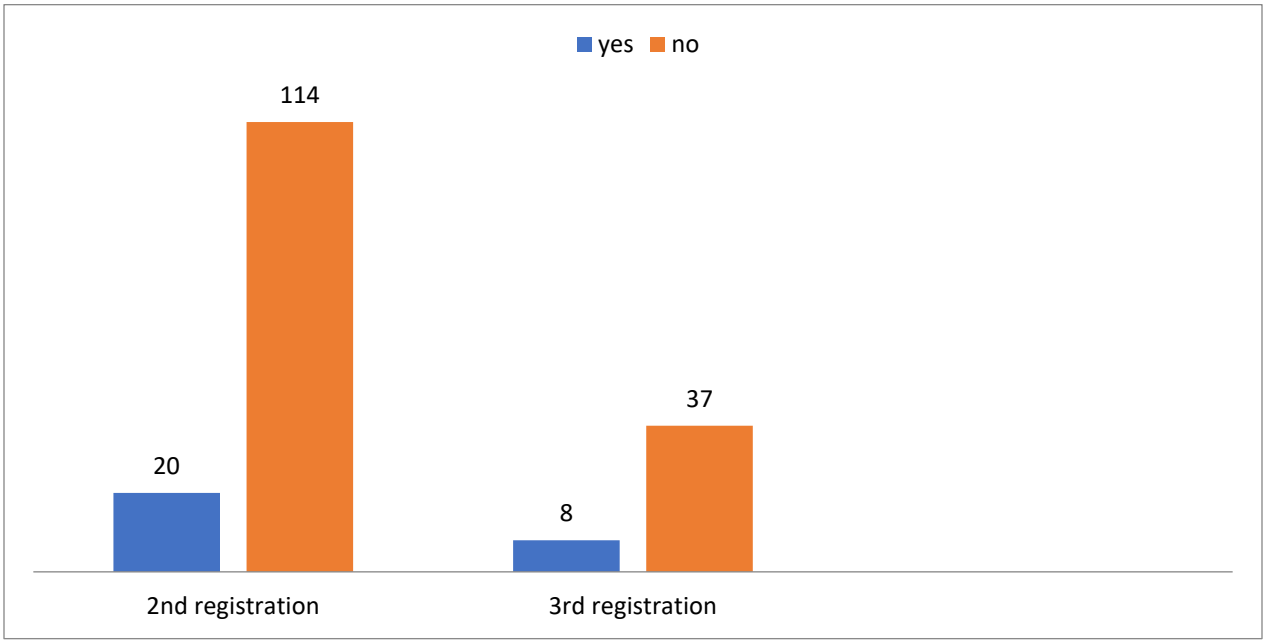

Figure 2: Information for records' clerk among the participants

Table 7: Reasons the records' clerk was not informed among the participants

Registration pattern	It was too long ago n (%)	Was not necessary n (%)	Was not asked n (%)
Second registration	13 (11)	48 (42)	53 (47)
≥Third registration	4 (11)	16 (43)	17 (46)

Table 8: number of registration cards collected as at time of study (patients registering for ≥ third time only)

New Cards	Number (n)	Percent (%)
3	36	80
4	4	9
5	3	7
6	1	2
≥7	1	2

Figure 3: Knowledge of the purpose of registration card among the participants

Section 3:

- Do you know the purpose of a registration card?

Curiously, table 9 shows that 57% (76) of patients that registered the second time and 71% (32) of patients that registered the third time or more knew the purpose of the registration card. Eighty two percent of 2nd time and 84% of 3rd time or more registered patients revealed that it was as a reference card or for subsequent visitation.

- Do you think it is necessary for the doctor to ask these questions and to document your information in a file?
- Table 10 shows that 22% of the patients registering for the first time said no to this question while 22% of patients registering for the second time felt that the questions asked by the doctor were not relevant to the problem that brought them to the hospital.

Table 9: Positive response to purpose of registration card among the participants

Registration pattern	Yes	
	For attendance/ To see a doctor n (%)	As reference card/ Subsequent visitation n (%)
First registration	46 (27)	124 (73)
Second registration	14 (18)	62 (82)
Third registration	5 (16)	27 (84)

Table 10: Importance of clerking and documentation among the participants

Registration pattern	No n (%)	Not relevant to problem n (%)	Surprised at questions asked n (%)	Doctors ask questions n (%)	Proper treatment/ Drug administrations n (%)	History and research purposes n (%)
First registration	89(22)	72(18)	9(2)	22(5)	159(40)	50(12)
Second registration	19(14)	30 (22)	2 (1)	9 (7)	60 (45)	14 (10)
Third registration	5 (11)	6 (13)	2 (4)	5 (11)	15 (33)	12 (27)

DISCUSSION

Dental records consist of a variety of material generated and stored in handwritten and electronic format which includes: Notes made by clinicians and staff; completed written medical history; consent documents; copies of correspondence about and with the patient; radiographs, tracings, and measurements; digital records including CAD/CAM records; diagnostic images, reports and study casts; special test findings; photographs; records of financial transactions; and appointment books.[12]

The magnitude of the challenges that lead to multiple dental records which is a direct consequence of multiple registrations by returning patients is the high point of this study.

About one third of the patients were registered multiple times resulting in the patients possessing multiple folders in the records. Therefore, double registration with two separate file folders was discovered in 28% of patients while in 8% of patients, it was three registrations or more with corresponding number of folders. Similar results were observed in studies relating to filing of medical records.[1,2] Thirty percent of patients studied in Ghana[1] had multiple folders. In 20% of these patients, the folders were double while the remaining 10% were triple or more. Regarding the study in Ethiopia, they observed that at any given time, four different patients could have the same medical record number. Furthermore, if a returning patient's medical record could not be found, the patient was assigned a new medical record number.[2] A new MRN is usually given for every new registering patient.[7]

As a document for statistical use in planning and budgeting for health, multiple registrations give a wrong data base for policy making.[13]

Medical record documentation forms the basis for proper epidemiologic evaluation of various patterns of disease.[2]

It has been observed that the reason for the challenges experienced in planning for the health sector has to do with data collection and the management of data. Bad data inhibit health information exchange and hinder clinical research, performance improvement, and quality measurement initiatives.[13]

Direct patient factors, has been observed to lead to the issuance of new patient medical records, which in most cases resulted in multiple patient folders.[1]

That the patients forgot their hospital registration cards at home was one of the patients' factors identified in the generation of multiple folders due to repeat registration in this study. This accounted for 5% of patients that registered a second time and 9% of patients that registered the third time or more. Anecdotal evidence from most public health facilities in Ghana, revealed that a sizeable number of the patients having more than two folders was due mainly to misfiling or patient forgetting their identity cards when visiting the facility.[1]

Seven percent of patients with double folders and 18% with triple folders or more admitted that the reason they were no longer in possession of their cards was because they have left home. This portrays the importance attached to the hospital card as a document. When these patients moved away from home, they would have had in their possession their birth certificates; national identity and school certificates to mention a few.

Eighty four percent (151/179) of all patients that registered multiple times did not inform the records' clerk of previous registration. Usually, the retrieval of an existing file is the re-attendance of a patient who has visited the hospital before.[6] Patients attending the hospital without their hospital identity cards lead to issuance of new folders.[1]

Although, 16% (28) of repeat patients did inform the records clerk that they have attended the clinic previously, they were given new folders with new MRN. Misfiling of patients' folders have been implicated in the generation of multiple folders.[1]

Knowledge of the purpose of a registration card is another patient factor. Fifty seven percent of patients that registered the second time and 71% of

patients that registered for the third time or more admitted knowing the purpose they were given a registration card. When asked the specific purpose for it, 82% of patients registering for the second time and 84% of those registering the third or more times, replied that it was for subsequent visit or to be used as a reference card. It is of concern however, that they still re-registered.

Regarding the importance of clerking and documentation of clinical information for record purposes, more patients (45% of those that registered the second time and 33% of those that registered the third time or more), expressed the belief that it was either for treatment or drug administration.

One of the consequences of multiple registrations is lack of continuity. Several studies have shown that primarily, the purpose of keeping dental records is fundamental for good quality patient care and means of communication between the treating dentist and any other doctor who will care for that patient.[8,14] It is to support the care of the patient.[14] A dental record is a continuum of patients care documented; a progress note of the patients' problems. It is a memory aid, acting as a reminder to the doctor and patient of previous discussion concerning the patients' problem. It serves as a record of communication between the doctor and patient.

If a medical record cannot be located, the patient may suffer because information, which could be vital for their continuing care, is not available.[15]

Multiple folders lead to separation of patients' dental problems into different files; there is a lack of integration of records. Therefore, the major function of dental records as a progress note is defeated.

This implies that clerking of the patient will need to be repeated. A study in Ethiopia observed from physician survey that they often had to repeat clinical examination due to loss of patient history and also, it was difficult to find out the medication administration detail of their patients.[2] Maintaining a unique MRN for a patient prevents the unnecessary duplication of clinical tests.[7]

A missed prescription could result in contradictory therapy.[16]

A repeat clerking by the same doctor may not get all the previous details of the disease condition in exactly the same way. This is because dental record is both a subjective and objective information about the patient.[17]The patient may not recall the details of the previous visit and much detail is lost concerning the history of the disease process.

CONCLUSION

The primary function of patients' dental records is to support care. With the existence of multiple records for a single patient, it is likely that healthcare providers will miss critical information because it is located in the duplicate. Adequate knowledge of the challenges that lead to multiple dental records as a direct consequence of multiple registrations by returning patients is important in the prevention of future occurrence. One folder per patient can improve patient care and doctors' performance. Electronic Medical Records is one of the recommendations for the possible prevention of multiple records.

RECOMMENDATION

It is suggested by this author that patients should be educated on the importance of the information in their folders and therefore the necessity of their registration cards. Electronic health system should be introduced to the hospital to ensure that patients can still be identified without their folders when they bring other means of identification. With the number of problems associated with maintaining manual medical records, some health care professionals and administrators want to move from a paper to a paperless environment.[15]

Financial Support
Nil

Conflict of interest
None declared

REFERENCES

1. Teviu EA, Aikins M, Abdulai TI, Sackey S, Boni P, Afari E, Wurapa F. Improving medical records filing in a municipal hospital in Ghana. Ghana Med J 2012;46(3):136-141.
2. Wong R, Bradley EH. Developing patient registration and medical records management system in Ethiopia. Int J Quality Health Care 2009; 21(4):253-258.
3. Bittle MJ, Charache P, Wassilchalk DM. Registration-associated patient misidentification in an academic medical center: causes and corrections. Jt Comm J Qual Patient Saf. 2007; 33(1):25-33.
4. McClellan MA. Duplicate medical records: A survey of Twin Cities Healthcare Organizations. AMIA Annual Symposium Proceedings AMIA Symposium; 2009. pp. 421-425.

5. Charangowda BK. Dental records: An overview. J Forensic Dent Sci 2010; 2(1):5-10.
6. Yeo G. International Records Management Trust Managing public sector records: a study programme. Managing hospital records London. International Records Management Trust. 1999.
7. UTMB Medical Record Policy Health Information Management. Institutional Handbook of Operating Procedures Policy 09.02.21- Medical Record Number Assignment. Section: Clinical-Patients Records
8. Lawney M. For the Record. Understanding Patient Recordkeeping. N Y State Dent J 1998; 64:34-43.
9. Australian Dental Association (ADA). Policy Statement 5.17 – Dental Records, 2018. Available: https://www.ada. org.au/Dental-Professionals/Policies/Third-Parties/5-17-DentalRecords/ADAPolicies_517_DentalRecords_V1 [Accessed 14th January, 2019].
10. Leape LL, Bates DW, Cullen DJ, et al. Systems analysis of adverse drug events. ADE Prevention Study Group. JAMA 1995; 274(1):35-43.
11. Feied CF, Handler JA, Smith MS, et al. Clinical information systems: instant ubiquitous clinical data for error reduction and improved clinical outcomes. Acad Emerg Med 2004; 11(11):1162-1169.
12. Brailer DJ. Interoperability: the key to the future health care system. Health Aff (Millwood) 2005; Suppl Web Exclusives:W5-19-W5-21.
13. Rampatige R, Mikkelsen L, Gamage S, Peiris – Fecha de consulta S. (2009) Promoting the periodic assessment of the quality of medical records and cause- of -death data: lesson learnt from a medical records study in Sri Lanka. Working paper No.14.University of Queensland School of population Health, Health Information System Knowledge Hub, Brisbane Australia.
14. Mann R, Williams J. Standards in medical record keeping. Clin Med 2003;3(4):329-332.
15. World Health Organization Library Cataloguing in Publication Data. Medical Records Manual: A guide for developing countries. 2002.
16. Joffe E, Bearden CF, Byrne MJ, Bernstam EV. Duplicate Patient Records – Implication for Missed Laboratory Results. AMIA Annu Symp Proc 2012; 2012:1269-1275
17. Devadiga A. What's the deal with dental records for practicing dentists? Importance in general and forensic dentistry. J Forensic Dent Sci 2014; 6(1):9-15.