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A quality improvement initiative for clinical records in the public dental services.

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Abstract

The dental clinical record is fundamental to
could have problems with the continuity of c
compliance with Dental Council's Code of Pra
improvement initiative to increase the relev
the emergency dental visit.

The HSE change model was used to guide the w
providing the planning, and change Hub. At protoc
and prompt cards were developed to provide g
a baseline assessment of the records. Weekly
compliance and allow for further sustainable improvement of the Staff completed a feedback
questionnaire to elicit their compliance with
telephone-based advice to improve the process
include further development of the audit pro
with all staff to promote continuous quality

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I would like to acknowledge my husband Eoin and children Jennifer, Aoife and Lucy for being patient and so accommodating. I wish to sincerely thank the public dental services, including my principals, for the assistance provided to me throughout this Masters. I am very grateful for their support and encouragement. I would also like to acknowledge my facilitator who listened and gave positive advice and the Action Learning set who became my sound board. Thanks go to the librarians who accessed many articles and books over the course. I am grateful to the staff in my area that made the changes and listened to my ideas and the staff of the RCSI who have taught me so much over the last three years.

Section 1: Introduction

Introduction

The dental record is an integral part of patient care, and it is essential that the information captured reflects the sequence of events during a dental visit. Not doing so can lead to numerous potential problems. The author is currently a senior dental surgeon in the public dental services comprising of thirty-nine members of staff, including thirteen dentists. When carrying out a review of the categories of emergency patients attending the service in May 2013, it was found that many dental records did not contain adequate information. It was at this stage a decision was made to implement a quality improvement programme to address the issue.

Rationale

'An appropriate clinical examination, couple essential to all Faculty of General Dental Practice (UK) 2009. ' (Pg. 1). The authors highlight that clinicians need to use guidelines to improve patient care. They produced guidelines to support the clinician but allow flexibility to take into account individual patient needs. Accurate clinical record keeping is important for several reasons:

- They provide detailed information of the care provided for a patient. It records all diagnostic information, medical history, clinical notes, treatments performed and patient communications;
- Allows different clinicians to understand previous treatment carried out;
- Allows the clinician to carry out detailed treatment planning and to record outcomes;

- ¶ Provides information regarding medical history and medication;
- ¶ Includes further tests such as radiographs, study models and written correspondence;
- ¶ Allows audit to monitor the quality and to help plan services;
- ¶ Can be utilised in forensic dentistry and can aid the identification of a deceased or missing person;
- ¶ It is a legal document and can be used in evidence of malpractice.

For further improvement of the dental services, the clinical notes need to record critical information which is an urgent issue for the department, because not doing so leaves the dentist open to litigation and disciplinary issues.

Aims and objectives

Aim:

To improve and evaluate the quality of information contained in emergency dental clinical records.

Objectives:

- ¶ Design an emergency patient record audit design based on the findings of the literature review;
- ¶ Develop a protocol and prompt cards to reflect the information required in the emergency dental record;
- ¶ Determine the percentage of records meeting the standard pre-change;

- Achieve 90% compliance with the set standard within two months of the change;
- Obtain feedback and experiences from the dentists regarding the protocol and prompt cards.

The goal of the project is to achieve emergency records that, if examined by another person, would contain enough information for that person to be able to assess the actions of the dentist, patient and interactions with the parent during the appointment.

Organisational Context

The writer will be introducing a quality improvement measure, based on clinical guidelines, to increase the quality and quantity of relevant information recorded on the dental clinical record. The information regarding recording signs and symptoms, diagnosis, treatment planning and treatment provided is the main area of focus which will involve training dentists in best practice and introduction of a protocol on essential information with associated audits. The writer will develop a protocol that captures all relevant information required. The change will ensure that the dentist complies with the Dental Council's Code of Practice and colleagues to read charts with greater accuracy. There will be regular audit, relaying the results to the staff. The computerised dental record system can accurately run reports that could improve services.

Guidelines from the Faculty of General Dental Practitioners (UK) (2009), Dental Council Code (2012), Dental Protection Society (2009), the American Association of Endodontists (Levin et al. 2009) and the Scottish Dental Clinical Excellence Programme publications (2007, 2012 & 2013) will form the basis of the protocol. The writer will carry out a pre-change audit and every week thereafter after to measure compliance. It is anticipated that there will be 90% compliance within two months of the introduction of the change. Ideally, this should be 100%, but gradual improvement is more achievable.

The resources required for the change include time and travel costs for appropriate training, stationary, possible increase in appointment length due to time required for typing notes and protected time to carry out the audits. The change is realistic but will need to be followed up with regular audit and training. It has to be introduced within a relatively short space of time because many of the records do not comply with the Dental Council Code of Practice (Feb 2012). The organisation is at risk from litigation as many of the clinical records could not be used to defend a claim effectively. A questionnaire will be developed to assess the success of the programme from the dentists þoints of view and allow further improvements.

The literature review in section two explains the rationale and examines different audits. The methodology (section three) reviews change models and details the change process. Section four evaluates the audit and staff questionnaire and section five discusses various aspects of the change project relating it to evidence-based literature.

Section 2: Literature Review

Introduction

This section examines the importance of clinical records, the requirements and audits of dental records, some with quality improvement measures. The writer used several different search engines including Google Scholar and Google as well as Pubmed, Emerald and Wiley. Other sources of literature were professional books and publications, Dental Council and HIQA websites and legal acts (Data Protection and Freedom of Information). Two other sites used were Dental Protection Society and HSELand which provide e-learning in various topics. The search terms used were: Quality dental records, audit dental records, recording medical charts, healthcare records and evaluation records. The writer looked at articles from approximately 1990 to the present day.

What is a dental record?

Lawney (1995, p40) cites the dental record as 'the com
evaluation, diagnosis, treatment and care of the patient'
Assessment and Review Guidelines (SDCEP 2012) states that the records should be:

1. Accurate.
2. Dated
3. Confidential
4. Secure

5. Contemporaneous
6. Comprehensive
7. Legible. Clinicians should use language that is understood by others, and avoid the use of non-standard abbreviations. The document quotes that computerised systems avoid problems of legibility which is true when having to deal with illegible handwriting. However, if non-standard abbreviations are used confusion can still occur. The dentist must make corrections without removing entries from the record. Errors should be crossed out with a line and initialled on paper-based records. The correct entry should be beside it, dated and signed and the use of correction fluid is not allowed. Electronic dental records should not be capable of subsequent modification once the information has been date-stamped (FGDP(UK) 2007).

What is the purpose of clinical records?

- Patient safety: This includes details to ensure the correct tooth/teeth/area is treated and drug interactions are avoided;
- Dental team protection: When asked to recall information regarding a patient visit, contemporaneous notes are vital;
- Future evaluation of treatment decisions which enables review of practices, techniques and audit;
- Contractual obligation;
- Measures progress and change of an individual;

- It is a working document for recording activity. It allows communication between team members and records all diagnostic information, treatment given and patient related communications;
- Forensic odontology which is the branch of forensic science that deals with the handling, examination, and presentation of dental evidence in court. Charangowda (2010) cites that it is the overlap between the dental and legal professions. The author recognises that the most common area of work is the request for ante-mortem dental records to aid identification which is essential to process a death certificate and is crucial for homicide investigations and other suspicious deaths. It also provides. Hill et al (1985) noted when they investigated the Manchester Air Disaster on August 22nd 1985 that dental identification is the single most valuable method available. However, they found significant problems with the dental charting, and that some dentists had difficulty in tracing the patient records.

The Dental Council of Ireland, in the Code of Practice (Feb 2012) must state: 'You must keep accurate and up to date records for all your patients. You must keep these records in a safe place and, in the case of adults, for eight years after the last treat. National Standards for Better Safer Healthcare (HIQA 2012) recognises that health information, including healthcare records, needs to be managed. Clinicians must carry out regular evaluation and recognise opportunities for improvement. The information in healthcare records needs to be accurate, valid, reliable, timely, relevant, legible and complete.

Relevant legislation pertaining to dental records is:

- Data Protection Act 1988 and 2003 which applies to the information held by a dentist in a public or private capacity. Article 5 relates to the quality of data recorded. It should be obtained and processed fairly, stored for a specific purpose, adequate and relevant, accurate and up to date. This law refers to records held by a dentist in a private or public capacity. A person may request a copy of their record in writing.
- Freedom of Information Acts 1997 and 2003 which applies to records held by a public body or a dentist acting as an agent of a public body. It allows every person the right of access to any record held by a public body in relation to them. The records must be objective and document reasons for decisions. The clinician must assume that the records can be read by the patient and write accordingly.

All dental professional bodies recognise the need for accurate and contemporaneous records and clinicians look to guidelines for standards. The Faculty of General Dental Practitioners (UK) (2007) produced comprehensive guidelines that provide a benchmark for such and are based on a systematic review of all available evidence. The role of the guidelines is to aid the clinician to adapt current best practice based on expert opinion but allows modification to take into account the needs of the practitioner. Collins (1996) recognised that the use of professional judgement is necessary for all clinical records. The details required for each record will vary but there is certain information that is essential (College of Dental Surgeons of British Columbia 2010):

- General patient information (name, address, date of birth, contact details).
- Consent obtained.
- Updated medical history.
- Dental history.
- Accurate description of findings in the examination including if within normal limits.
- On-going dental status.
- Record of all diagnostic aids including radiographs which must include justification for taking radiograph, details of radiographs doses and reporting.
- All diagnoses and treatment options.
- Treatment plan.
- Description of all treatment carried out.
- Details of all referrals and received correspondence.
- Details of verbal conversations such as instructions and telephone conversations (HSE 2011).
- Details of drugs prescribed.

Dental records and audit

Staff should audit healthcare records regularly as part of quality assurance (HIQA 2012). There have been several studies regarding the quality of information detailed in dental records with some implementing improvement measures.

Platt and Yewe Dyer (1995) carried out a study that compared NHS payment forms including dental teeth charting with the charting of the same patients when examined

by Regional Dental Officers. The authors found that the charting was accurate in forty eight percent of cases whilst fourteen percent had no charting of teeth.

Rasmusson et al. (1994) examined five records from ninety-six randomly selected dentists / specialists in Sweden and evaluated them against standards applied by the National Board of Health and Welfare (SOSFS 1989:50). Every sixtieth dentist on the register of licenced dentists were asked to submit the first five records found concerning patients born on the 3rd, 14th, 20th, 25th and 27th day of a particular month with the evaluations completed by one assessor (Rasmusson). The authors concluded that specialists recorded details better than general dentists and age was significant with the younger dentists scoring higher. The further training that specialists undertake may increase the likelihood of more detailed records. Younger dentists may have an increased awareness of the quality of dental records and there may have been additional undergraduate training in recording the relevant information.

There was good compliance in documentation of patient identity, diagnosis, types of drugs prescribed and types of materials used but were less compliant in prognosis, corrections and patient history. The authors noted that forty percent of the documentation was not in accordance with the rules produced by the regulatory body and there was a need for better training. Selection bias may have occurred and the authors commented that the dentists involved may not have followed the rules on records selection. They may have chosen records of good quality and acknowledge that this is out of their control. The judgement of the assessor is subjective and the completeness of record notes can be difficult to analyse. There was one assessor, and the records were judged relative to that individual's interstan

rater variation. The authors provided no details whether they assigned a yes/no or graded score.

The Finnish Health Authorities provide the public oral health record form and detailed instructions on its use. Helminen et al. (1998) studied the dental records of two hundred and thirty nine subjects in a town, in South Finland that equated to approximately five cases per dentist working in the area. Patients born between 1966 to 1971, and examined in 1994 were included to ensure that the selection was homogenous. The authors used the oral health record form as the given standard and used the criteria that any entry was acceptable. Using a yes/ no score may not provide accurate results but could have made auditing more straightforward. The dentist's recording in ninety percent of cases, but only eleven percent recorded soft tissues findings. Female dentists were significantly better at recording information along with dentists younger than 37. The authors do not suggest reasons for these results but perhaps they reviewed a higher proportion of female dentists.

Morgan (2001) examined four hundred and seventy clinical records of patients who were part of the British United Provident Association (BUPA) dental plan- a private capitation scheme where the patients pay a fixed amount every month to cover their dental needs. The author audited forty-seven general dental practitioners on the basis of availability and ten patients were chosen by selecting n/10 patient (n=total number of patients). Edentulous patients (no teeth present) and those young adults with remaining deciduous (baby) teeth were excluded. The author recognised that this selection of dentists could introduce bias to the results as they may be well

motivated. The charts were examined when the patient entered the BUPA contract against the criteria that were issued to every dentist when they joined the scheme. Out of the four hundred and seventy records, six were excluded because they were either illegible or incomplete. The dentists full smoking history recording (seventy percent) most frequently with medical history next (forty four percent). The paper provides a list of required entries but not as to whether it was scored yes/ no or graded. The dentists may not have adhered to the set criteria on how to select charts and the results may reflect a positive bias. The study found little difference between male and female dentists and that dentists longer qualified had better quality records which contrast with Rasmusson et al. and Helminen et al. Dentists that join a private capitation scheme may be more motivated and experienced which could produce such results.

Cole and McMichael (2009) invited dentists in Worcestershire to take part in an audit of clinical records with an aim to improve the quality. Guidelines from the Faculty of General Dental Practitioners and the British Dental Association were used to produce eight 'domains' which were graded fr
The authors gave a detailed breakdown of each domain and how each was graded. There was also 'not applicable, one could not comment on the (for radiograph domain if none were taken). Dentists randomly selected thirty NHS patient records to assess themselves using the grading system. One obvious problem with this audit is that the dentist may select the best thirty records and each dentist may interpret the grading system differently. The authors acknowledge this problem but identified the purpose of the audit was to encourage dentists to be reflective and self-critical. The dentist's recording of patient of cases and hard tissues and medical history in more than ninety percent. The

lowest were soft tissues at sixty-four percent. These results compare with Helminen et al. but this may be because of the problems listed above. The authors recommend the development of practice based systems, education and regular audit.

Ireland et al. (2001) examined how the introduction of a prompt card with the information required for a dental examination would affect the quality of the clinical notes. The dentists involved were part of the Denplan Excel programme. Denplan is a UK dental payment plan specialist and the Excel programme is an accreditation scheme designed to improve the quality of care. One facet is that the dentists should record critical clinical information. The authors selected fifty dentists by cluster sampling. Denplan contacted the practice and obtained consent from the dentist and collected the data on an arranged date and each dentist was coded to ensure anonymity. The patients were selected on the basis that they had attended two recall examinations, one of which was before the dentist had joined the accreditation programme. The first twenty consecutive patients that met the criteria were included, and anonymity was maintained by way of codes kept by the dentist with a total of one thousand records examined. There was a substantial improvement in the quality of recordings including dental decay and soft tissue examination. However, the latter only increased to forty nine percent (from four percent) showing that there was still room for improvement. The authors concluded that the programme did improve the quality of the records but that it is vital to monitor over a longer period to maintain and further improve the records.

Smith and Farrington (2000) carried out a clinical audit project within a dental practice in Merseyside involving nine dentists, including two recently qualified (one of whom was an author). The aim of the project was to ascertain if illegible handwriting and abbreviation usage was widespread throughout the practice and develop guidelines for improvement. The author's set the criteria and within the practice. However, the paper fails to detail how the standards were developed or provide details of the standards. A four point grading system was developed to mark legibility (easily readable to illegible) and clarity (obvious to unclear). The authors carried out a pilot where each dentist assessed ten records of all other dentists. The pilot highlighted the problem of bias and the need for calibration between the assessors.

The initial audit assessed the one hundred most recently used records for each dentist that allowed the study to achieve statistical significance and included simple and more complex treatments. The data recorded were patient number, score for legibility and clarity and any abbreviations used. The authors agreed abbreviations after the initial audit. The results of the second audit five months later showed a general improvement in both legibility and clarity, although they still fell below the agreed standard of one hundred percent in seven out of nine dentists.

Crawford et al. (2001) developed the CRABEL score method for auditing medical records that involves assigning a numerical score of one hundred to each chart and deducting points when certain items are omitted. A modified version of this system was used by Pessian and Beckett (2004) who carried out an audit to assess the

quality of record keeping by undergraduate dental students. The audit consisted of one hundred patient records attending fourth and fifth year students on Fridays between April and June 2002. One assessor calculated a score for each record to reduce inter-rater variability. The authors gave a presentation to a small sub-group of students on the findings of the audit and the importance of good record keeping. The assessor then examined the most recent entries for another one hundred patients over the next five consecutive Fridays. The student results improved but some scores, including updated medical history an
The authors noted that the further development of the quality improvement programme was essential. It is unclear from the article if the re-audit was carried out for both the intervention and non-intervention groups. If it were, there could have been a comparison of the two groups.

Chasteen et al. (1996) describes an audit system utilised in the University of Washington School of dentistry. Policies were developed to establish criteria for standards in record keeping and regular audits carried out. The authors decided that weighted values based on perceived importance of the process, likely exposure to litigation and frequency of the occurrence of a specific recording problem. Calibration of the assessors was seen as essential and was aided by the involvement of the individuals in the audit system. Once a record has been audited, the student is required to take remedial action to improve the records, and it is countersigned by the auditor. This system permits evaluation of changes in performance of individuals and the introduction of procedures to improve the performance. The authors conclude that since the introduction of the audit, there have been fewer incidences of incomplete records and a reduction in the expenditure on claims.

Figure 1 shows a table comparing the audits with details of record selection, number of charts, number of assessors and interventions.

Article	Patient selection	Number of charts	Y/N or graded	Intervention	Number of assessors
Rasmusson et al.	By dentist. Set criteria	480	No details	No	1
Helminen et al.	Born between 1966-71. Examined in 1994	239	Y/N	No	5
Morgan	n/10th patient. No deciduous/ edentulous patients	470	No details	No	1
Cole and McMichael	Self-audit by dentists	30 for each dentist	1,2,3,4	No	Self-audit
Ireland et al.	First 20 patients meeting criteria	1000	No details	Yes. Prompt cards	3
Smith and Farringdon	100 most recent records completed	900	4 point system	Yes. Developed guidelines	9- every dentist in the practice
Pessian and Beckett	Patients attending 4th and 5th year students	200	Score out of 100	Yes. Presentation to sub-group	1

Figure 1: Comparison of audits

Conclusion

This literature review has shown why a dental clinical record is important, what needs to be recorded and audits that have measured the quality of details recorded. The use of audit has highlighted that there is a general problem with record keeping across the profession. The interventions detailed have improved the quality of the information captured, but the authors acknowledge that further improvements are required. Continual training and audit are required (Ireland et al.2001) and this would be a suggestion for further research. The writer has used this information to produce a protocol and audit tool, described in later sections.

Section 3: Methodology

Methodology

This section examines different approaches to change management in addition to different change models. The writer chose the HSE change model and each stage is detailed with reference to change literature.

Approaches to change

There are a variety of approaches to change documented in journals and books and it is important to select the most applicable for the situation. Two dominant approaches are planned and emergent change (Burnes 2004a, Tondem 2005). Lewin was one of the first proponents of Model Steps Model’a of unfreezing, moving and re-freezing (Schein 1996, Burnes 2004b) and others, such as Bamford and Forrester (2003) developed the concept. It involves working through crucial stages in a structured way to achieve key outcomes. Kotter (1995) adopted a similar format and states that eight stages that must be followed sequentially to avoid failure of a project.

Criticisms of planned change include the assumption that organisations are relatively stable and can move from one state to another with relative ease. Organisations do not operate under such conditions and change is continuous and cannot be planned. A second criticism is that it cannot be applied to large scale rapid change. Third, it presumes that all stakeholders are interested, motivated and conflict within the stakeholders can be identified and controlled with ease (Burnes 1996).

Emergent change has grown momentum since the 1980's (Tondem 2005). as change driven from bottom up rather than top down, and is continuous and open-ended (Bamford & Forrester 2003, Burnes 1996) with managers becoming facilitators rather than controllers (Bamford & Forrester 2003). Emergent change assumes that environments are turbulent and unpredictable and this is why organisations need to be continually looking and responding to change (Burnes 1996).

The question should be asked - is change either planned or emergent or a combination of both? Burnes (1996) suggests that planned and emergent change should not be seen as contrasting methods but as different approaches depending on the situation. Thus, change could be viewed as neither completely planned nor emergent (Senior & Fleming 2006). This seems to be the sensible approach to take as change agents could not possibly predict every problem that may be encountered. The 'Contingency Model' was dev (Dunphy & Stace 1993). It details how to choose strategies, depending on the situation, with two dimensions - the scale of the change and the leadership style used. However, critics state it is possible to alter the contingencies to reflect desired change (Burnes 1996).

Organisational Development models

Senior and Fleming (2006, p.343) perceive Organisational Development (OD) approach to change as a set of ideas about people and which believes that people at all levels throughout an organisation are individually and collectively, both drivers

and engines for change. The model has two important characteristics; a framework of recognisable phases that transform from the current to the future state and a collection of activities within each step of the model. There have been many models developed over the years including Lewin's three step model of change (Schein 1996) and Kotter's model which all use the above formula. The activities are carried out sequentially, to avoid failure (Kotter 1995). Critics of these models state they are too simplistic and that organisations are more fluid (Burnes 2004b). However, the author acknowledges that Lewin recognised that change was not predictable. Young (2009) developed a meta-model of change based on the analysis of several change models. The author recognised there were commonalities across the models and utilised this information for the development of the meta-model of change. It is possible to stimulate another cycle of learning within the macro cycle that produces continual learning and change.

Senior and Swailes OD model of change

Senior and Swailes (2010) use action research as a basis of their OD model for change. They recognise that change is an on-going process which is vital for companies to remain competitive. Cycles of activity can occur within each phase and all that might be involved in the change are part of the decision making process. At the centre of the model is the change agent or facilitator.

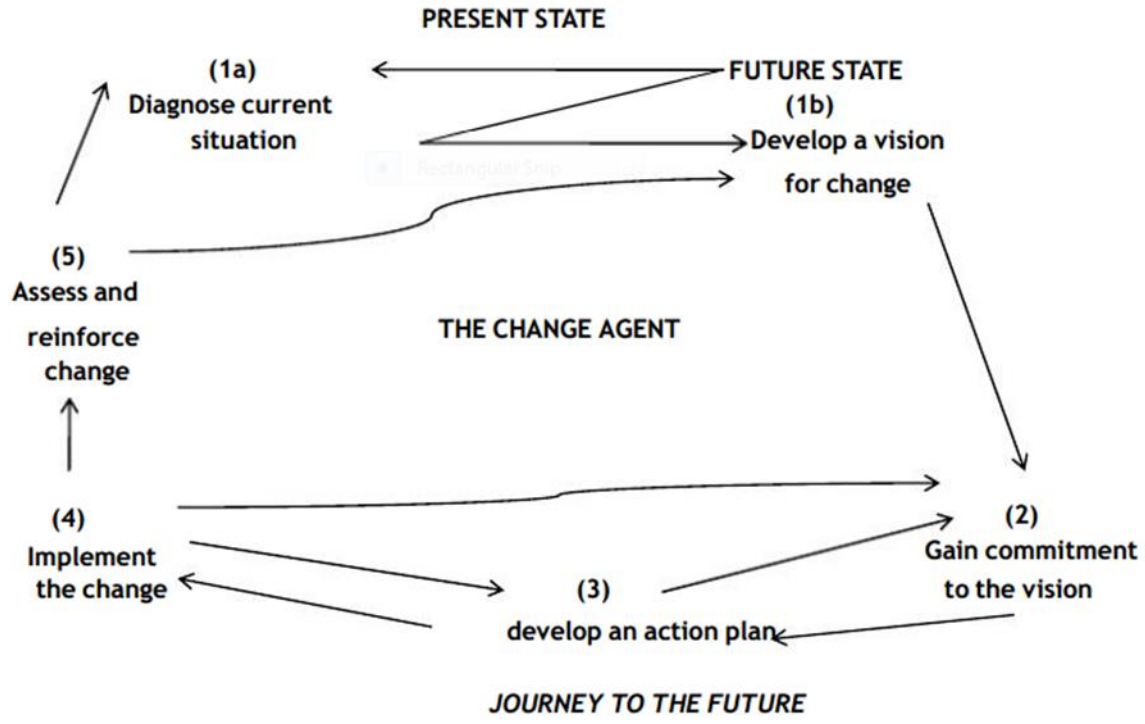

Figure 2: Senior and Swailes (2010) OD model of change

HSE change model

The HSE change model has four stages that allow the change agent to revisit areas if necessary and is prescriptive with definite steps within each stage. Young's meta model of change, Senior and Swailes OD model of change and the HSE change model differ from Kotter's model as it allows the change agent to revisit previous stages and cycles of learning within the model.

The writer selected the HSE change model because defined steps facilitate the change initiator. The HSELand change hub provides significant amount of resources

including templates for each stage and e-learning. The non-linear nature of the model allows flexibility between the stages, enabling the writer to revisit steps if required.

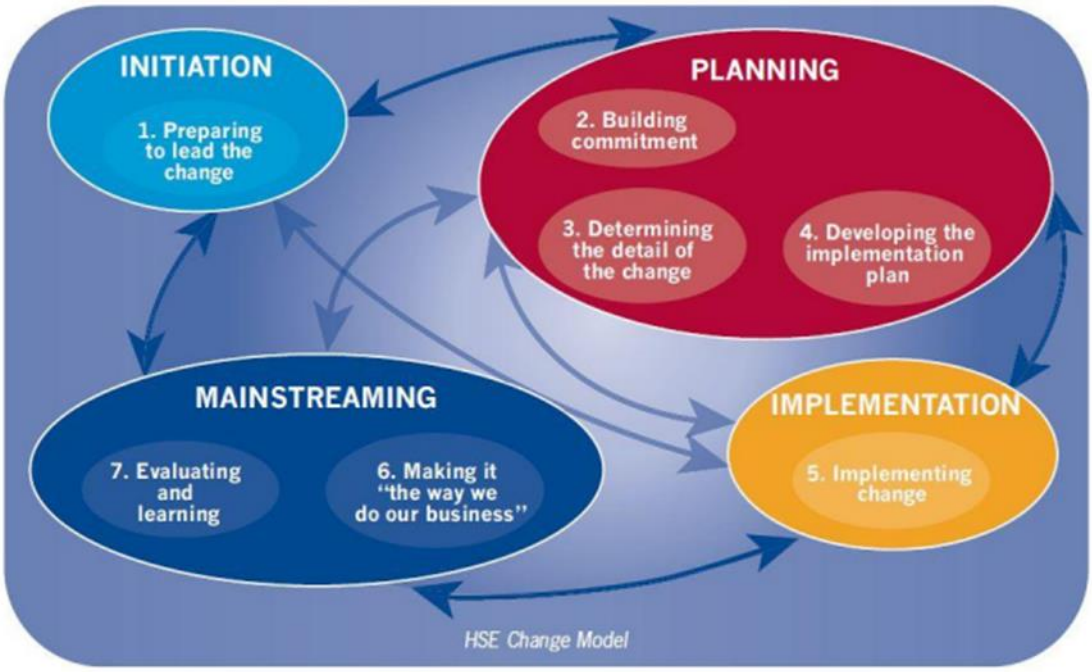

Figure 3: HSE change model

Change process

The HSE change model has four key stages: Initiation, planning, implementation and mainstreaming.

Stage 1: Initiation

This first phase involves several key stages to prepare for change. These are divided as follows:

1. The need and urgency for change, which includes examining the drivers for change;
2. Identifying leverage points and opportunities;
3. Assessing the stakeholders in the process - internal and external;
4. Risk and issue analysis;
5. Business case for change.

Identify the need and urgency

The HSE change model poses three questions:

1. What needs to be changed? There needs to be an improvement of the information captured in dental record that includes documentation of patient details (correct name, address, date of birth, contact details, school, clinic and dentist), updating medical history, autoclave cycle and obtaining consent. Recording of signs and symptoms (complaining of, where, when, how long, what type of pain), exam, diagnosis and treatment plan require significant upgrading. The scope and scale needs to be established to ensure the project is achievable. This project has been limited to one dental area comprising of nine clinics (fourteen surgeries) and the focus is on the emergency patients. The emergency patients attend at the emergency time of 9am and the charts

for these patients can be accessed remotely on the computerised dental system.

2. What activities will bring about this change?

    - ¶ Literature review;
    - ¶ Protocol and prompt card design;
    - ¶ Audit based on clinical guidelines to obtain a baseline assessment of the current situation;
    - ¶ Pre-change audit;
    - ¶ Communication with stakeholders;
    - ¶ PowerPoint presentation detailing the change required;
    - ¶ Re-audit on a regular basis to maintain standards.

3. What are the drivers for change? A PESTLE analysis (Appendix 1) allows an environmental assessment of the external drivers for change. The writer used the information obtained in the Force Field analysis. Some of the most important external drivers include requirements of Dental Council and HIQA.

Identifying leverage points

SWOT analysis (Appendix 2) helps develop a full knowledge of a situation, both with strategic planning and decision-making. The analysis shows that there are highly motivated senior staff members and dentists who are eager to bring about change. The line manager (Principal Dental Surgeon) (PDS) and National Dental Office are

dedicated to improving the department. Low morale, lack of awareness and poor IT skills may hinder the project.

Cause and effect analysis (Appendix 3)

Although not included as one of the HSE change model tools, the writer determined that this would a useful tool to analyse the root causes of the problem. Brainstorming was employed with several members of the dental team to evaluate the situation and analyse the results. The main area of focus is the ‘people’ aspect and wh most amount of effort will be required.

Stakeholder analysis

This stage is necessary as identifying the key stakeholders will influence the communication plan used to engage with them. This tool allows the writer to assess which stakeholders are important to the success of the project and what interest they have. Figure 4 illustrates the main stakeholders in this change process and their relative impact and power. The stakeholders in the high power and high impact section are the groups where focus is required. The main group who could affect the outcome of this project are the dentists as they are the people most affected by the change. Buy-in with this group is essential for the project to move forward. Within this group there are golden triangles, zealots, & Cesar 1998). The writer has to identify the waverers and passives to ensure success of the project. If the waverers do not support the project they could persuade the passives not to follow.

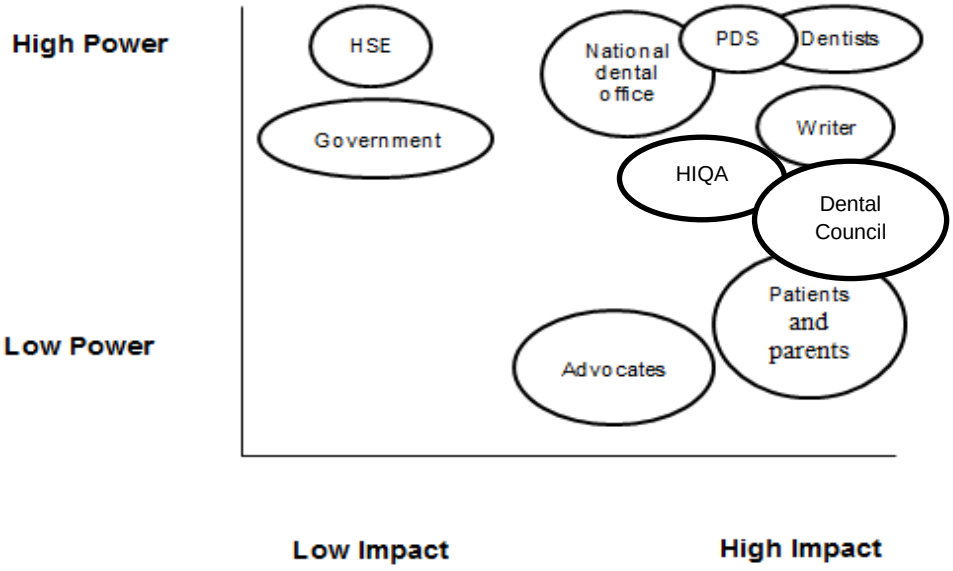

Figure 4: Stakeholder Analysis Four Sector table

Force field analysis

Using all the previous tools, the author carried out a Force Field analysis (appendix 4). This shows the main drivers and resistors to change, and allows the change agent to modify any one of them to bring about change. Examining the Force field analysis allows the writer to identify sponsorship within the organisation, gauge the resistance, involve the correct people and assess the impact. The main drivers in this process are the writer and Principal Dental Surgeon (PDS) who is the sponsor of the project, along with evidence of poor record keeping. The main resistors are staff attitudes and low tolerance to change. Thus, involvement and buy-in from key staff members is essential for the project to be successful. An impact analysis will be required to analyse the effect of the change, both positive and negative. This has been carried out further in the methodology.

Risk and issue analysis

A risk assessment allows an organisation to exam what risks could cause problems and the possible impacts. The writer can assess any controls in place and implement additional measures if required. It is beneficial to complete a risk assessment form, calculate the initial risk rating and the residual risk rating. Figure 5 shows the risk assessment for poor documentation in healthcare records. The writer assessed the initial risk rating as 16 with a score of 4 for the likelihood and 4 for impact.

The writer has to evaluate the risk and a decision must be made to either accept or treat the risk. Accepting the risk is not satisfactory in this project so the risk must be treated by avoiding, transferring or controlling the risk. The methods already utilised is transferring via clinical indemnity. The department will control the risk by introducing guidelines and a protocol, training, audit and performance management. After implementation, it is anticipated that the likelihood will reduce to 2. Ideally this score should be 1, and this may be achieved in the future. The residual impact score has remained at 4. The risk has changed from high risk (red) to medium risk (amber), eventually aiming for low risk (green).

Risk Assessment Form

RISK DESCRIPTION	IMPACTS/VUNERABILITIES	EXISTING CONTROL MEASURES	ADDITIONAL CONTROLS REQUIRED	PERSON RESPONSIBLE FOR ACTION	DUE DATE
Impact: Poor follow on care for patients, risk of treating wrong tooth, risk of providing inappropriate treatment, risk of drug interactions, not meeting Dental Council, HIQA, Data Protection and Freedom of Information standards. Causal factor: Inadequate information recorded in health records. Context: In the dental department.	Financial implications for department. Litigation Stress for staff members involved. Increased staff absenteeism Removal from Dental Council register Disciplinary procedures	Clinical indemnity	Protocol setting out requirements Training and education Regular audit Performance management for all staff	CM	Dec 2013

INITIAL RISK			RESIDUAL RISK			STATUS
Likelihood	**Impact**	**Initial Risk Rating**	**Likelihood**	**Impact**	**Residual Risk Rating**	
4	**4**	**16**	**2**	**4**	**8**	**Red**

Figure 5: Risk Assessment form

Business case for change

The writer's vision is good quality records importance to the relevant stakeholders. The benefits are continuity of care for the patient and compliance with Dental Council requirements as well as others included in the literature review.

Stage 2: Planning

This stage uses the information gathered in the first stage to develop the change project. There a three phases: Building commitment, determining the detail and developing an implementation plan.

Building commitment

The HSE's vision for patient care is 'Easy access' (HSE staff p 2007, p.9). In relation to this change project:

- Easy access. A patient in pain is able to access the dental emergency service in Dublin North at 9am any weekday morning without an appointment.

- ¶ Confidence. The patient should be secure in the knowledge that the dental records are contemporaneous, detailed and in compliance with standards expected from Dental Council.
- ¶ Staff pride. Dental staff should take pride in all their work including the standard and quality of information recorded in relation to their patients.

A plan had to be developed to communicate the vision to the relevant stakeholders. The first stakeholder was the Principal Dental Surgeon (PDS). For this project to be a success, the backing of the PDS was necessary. A meeting was arranged to discuss how to improve the situation. It involved brainstorming the topic of clinical records and standards that should be utilised and adapted for this service.

The second stakeholder was the National Dental Office. The National Dental Office is interested in programmes aimed at improving standards within dentistry. There are other projects related to clinical dental records, including the roll out of the computerised dental system throughout the dental services, and new key performance indicators contained within the Primary Care Divisional Operational Plan (2014) that rely on good quality records.

The third stakeholder group were the dentists within the area. An email was sent to all dentists outlining the details. The writer took every opportunity to converse with the dentists face-to-face or by telephone to establish a rapport. The writer anticipated that some staff would voice their ideas and concerns and that gave the opportunity to establish buy-in.

Certain tasks need to be carried out to increase the readiness of stakeholders and organisation. It can include identification of resources available, skill gaps, identifying resistance, facilitation of communication and support. The writer needed to identify

possible causes of resistance and barriers to increase the readiness before embarking on the project. Kotter and Schlesinger (2008) identified four main reasons for resistance. The first is parochial self-interest. People are concerned with the implication of the change and how it will affect them rather than thinking of the effects it will have on the organisation. The dentists may perceive the change as an increase in workload and time taken to complete the emergency visit. Second is misunderstanding and lack of trust. After the initial informal communication, rumours circulated amongst some staff that the change would mean a significant increase in the length of time it would take to complete the emergency visit. Thirdly, there may be different assessments of the situation. Some staff may disagree on the need for change or the reasons behind it. There could be a possibility that the staff may think the proposals are unnecessary. Last, there is a low tolerance for change. The staff has taken several pay cuts, along with increased hours and workload. In order to identify the barriers (NICE 2007), the writer communicated with some key members of staff regarding record keeping in the form of a brainstorming session. Participation and support is a vital aspect of overcoming resistance (Kotter & Schlesinger 2008). The staff identified the main barriers as a shortage of time to type notes during a busy clinic, perceived lack of need to write such detailed notes and interruptions, such as telephone calls, during the clinic. The writer acknowledged that the change would increase work for some dentists. However, all the staff involved in the discussion recognised the benefits for comprehensive records and the importance of allowing time to complete them.

Determining the detail for change

This stage allows the change agent to assess the current situation to determine the detail of the change- a gap analysis. Dental record guidelines provided the writer with a basis on which to make recommendations to the line manager. Using this information a protocol was developed, along with a pre-change audit in general were variable, with some excellent and others devoid of details. Where we should be is everyone achieving comprehensive records for every patient treated, ideally, one hundred per cent compliance with the protocol. This information would provide the basis of the evaluation of the change.

The writer used the computerised clinical record system that provided the infrastructure, to carry out the audit. When brainstorming with the PDS, the concept of 'prompt cards' would be a good way of being able to remind the dentist as to what information needs to be captured. The writer spent time working out what would need to be included and the physical design. Initial designs were also shown to some of the dentists working in the same clinic with positive feedback. The second part of this stage was to carry out an impact analysis (appendix 5). This allowed the writer to study the impacts and work out how to resolve the issues. One issue is the time it takes to see the emergency patients and the number who attend the clinic. However, until the records are of a sufficient quality, it is difficult to address this problem.

Once the gap and impact analysis was completed, the next stage was to provide feedback to the dentists. The writer determined that feedback of the findings of the

analysis was best conveyed as a PowerPoint presentation as it provides the dentists a visual aspect for the change would allow feedback.

Designing the detailed change management plan

When drawing together all the information for the change, I had to increase the awareness of the problems regarding the clinical records and highlight the perceived benefits (NICE 2007). This required the writer to develop a plan that would overcome barriers and resistance to change. Educational materials were provided in the form of a PowerPoint presentation and protocol booklet outlining the rationale for background for the change and the details required from the staff. Prompt cards were developed to facilitate the dentist in recording the required information. Clinical audit and feedback was considered a powerful tool for staff to visualise the progress of the change. A feedback questionnaire for staff to complete was developed. The staff have not been asked for feedback in this way before. Continuous communication and support were a vital component throughout the change.

The template provided by the change model involved the writer looking at three different areas:

1. Strategy and policy. The writer produced a policy booklet to accompany the change. Having a written policy meant that staff are able to refer to it at any time. The implementation date was to be the date of the presentation and review date one year later that would allow for staff feedback over the course of the year. If any major alterations are deemed necessary, the policy can be changed accordingly. Often it is not until the staff has been working with the

document that issues can arise. It is important that the staff feel comfortable with providing feedback in a positive way.

2. Structure and Processes. This project did not involve the need for budgetary changes or service realignment. The audit process that has been introduced provides details of the standard before the change and the expected standard after implementation. This project is low budget and the largest cost has been the time the writer has dedicated to designing, planning, implementing and evaluating the project.
3. People and culture. People need to be supported during change. The writer, dental management team and National dental Office can all provide such support in the form of mentoring, training and dialogue.

Stage 3: Implementation

Education and facilitation are an important component of overcoming resistance to change (Kotter and Schlesinger 2008). Communication is a vital aspect should take place within each of the parties groups (The Health Services Information Sharing and Consultation Agreement 2006). The writer delivered a PowerPoint presentation on 11/12/13 to ten dentists who were encouraged to ask questions during the presentation. Several members of staff participated with queries regarding the information required and where to record it within the computerised system. However others were quiet. One reason could be that the individual may feel embarrassed by asking questions in front of others. Another reason could be that it was close to lunchtime or that some people need time to think of a question. In hindsight, the writer could have asked questions to try and encourage responses. The staff was

encouraged to contact the writer or Principal if any issues arose, either via email or telephone.

The day after the presentation, the writer monitored some emergency charts to see if there was any difference. On initial glance, there seemed to be some improvements. However, a week later there appeared to be a decline with some staff, so it was decided that a weekly audit and feedback was required. The reasons were twofold. First, to assess how much slippage is occurring and, second, to communicate to the staff that this will be audited regularly, and any significant drop in performance will be addressed by the line manager. Unfortunately, the department has not been used to regular audit of performance, which could lead to resistance. It is not the intention of the writer to be criticising people's work, but of a facilitator quality improvements. The results of the weekly audits were communicated to the dentists via email with positive comments on the progress observed, but also pointing out areas where there was room for further improvement. Projects that are frequently reviewed are more likely to succeed than those that are not monitored (Sirkin et al. 2005).

The writer received an email before Christmas 2013 for Dental Protection Limited (DPL) with regards to a roadshow they were organising in January 2014 regarding the importance of clinical records. As a member, the writer was able to bring two dental colleagues. An email was circulated explaining that it was a free lecture, with dinner provided and three Continuous Professional development (CPD) points. The response was poorer than expected considering that it was free. However, at present, CPD is not mandatory for dentists, and perhaps this, along with the location

(South Dublin) was a deterrent for some staff. It was an excellent lecture and the dentists who attended took a great deal out of the information provided, and were able to relay it back to other members of staff. Hopefully, additional training such as this could be offered to staff at a later date.

Stage 4: Mainstreaming

Mainstreaming provides completion to a change project and allows people to move to the next change. New behaviours have to b
Staff are much more aware of what is required and have been provided with the tools to do this. It has not been easy for some of them, especially when clinics are busy with several interruptions. Regular audit provides continuous information regarding performance, which is important to prevent a return to the old ways of working. Evaluation is the last part of this stage and allows further development. Continued communication and two-way feedback is essential to build on the improvements.

Conclusion

The writer elected to follow the HSE change model because of the ability to revisit previous steps and the information supplied on the HSE Change Hub. The model provided a step-by-step approach to change and included several tools and templates. The writer had to communicate with the dentists throughout the change process to identify sources of resistance, barriers and possible solutions to overcome these. Using this information along with evidence from the literature

review, a protocol, prompt cards and audit tool were designed to determine the current state and the improvement after the change. Communication via email, face-to-face and formal presentations was employed to impart the results of the change. The following chapter evaluates the results of the change.

Section 4: Evaluation

Evaluation

Evaluation of a project is essential to gauge success. To know whether a project has been effective, it must be measurable in some way. The writer has looked at two aspects: auditing the records and staff feedback after the change process was introduced. An audit model was used to aid the writer in the systematic analysis of the situation.

Introduction

Evaluation is 'the attributing value to an i information about in a systematic way, and by making comparisons, for the purposes of making more informed decisions or understanding casual mechanisms or general principals' (p9). There are many reasons to evaluate in the health service, including deciding on where to allocate resources and improving professional's or manager's decisions and know several questions. Ovretveit (1998) cites these as:

- Does the evaluation work?
- Why and how does it work?
- What are all the effects/outcomes?
- How long-lasting are the effects?
- Is it cost-effective?
- What do patients/carers think about it?

- How can we improve it?
- Is it meeting standards and regulations?

There are four different aspects of healthcare that can be evaluated; the individual, a group of patients, a large population and a system of care (Ovretveit 1998) Treatments, such as drug therapies, services, policies and health promotion are all examples of interventions that can be evaluated. The type of intervention often determines the type of evaluation.

Donabedian (1966) wrote a seminal article describing an approach to evaluation which assesses metrics that address structure, process and outcome (SPO). Structure refers to the setting of care such as the facilities, equipment, staff qualifications and other supportive elements (e.g., administration). Process evaluation regards the process of care with specified dimensions. Outcome evaluation measures the outcome of an intervention and is more amenable to precise measurements. However, the outcome may not be the relevant measure, it can take years for outcomes to happen, outcomes such as attitude are difficult to measure and occasionally and there can be a good outcome, even if the process is poor (NICE 2002). The use of process evaluation is relevant in this project as it reveals if dentistry is being properly practiced. One source of information for evaluation is the clinical record but there are limitations in using them, including inadequate detail (Donabedian 1966).

This project involved improving the information captured in the dental clinical record. Ovretveit (1998) states there are different perspectives of evaluation, which includes a managerial perspective. Its purpose, amongst others, is to monitor and improve performance within a service. This perspective is applicable for this project as it examines the quality and compares to set standards. The project is also assessing

the performance of the staff to record detailed clinical notes. One category of performance evaluation is to measure compliance and audit is the tool most appropriate in this case.

Audit

Audit was the main tool used to evaluate the success of the implementation of the change. NICE (2002, p1) define clinical audit as:

‘ a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change. Aspects of structure, process and outcomes of care are selected and systematically evaluated against explicit criteria. Where indicated, changes are implemented at an individual, team or service level and further monitoring is used to confirm improvement in healthcare delivery’.

For ease of use, NICE (2002) produced the Clinical Audit Cycle tool to aid the audit process.

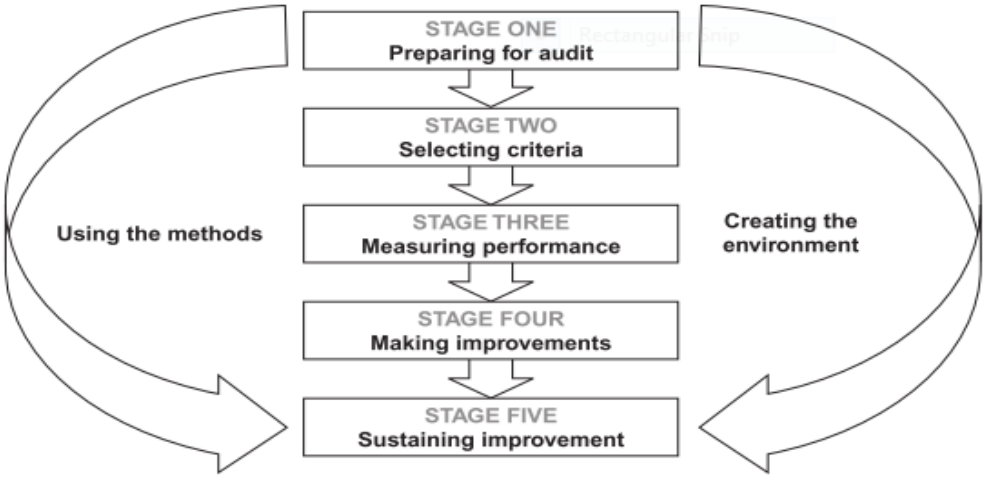

Figure 6: NICE (2002) Clinical Audit Cycle

Stage 1: Preparing for audit

The PDS would receive communication from parents or carers regarding the service on a regular basis. In order to respond to these queries effectively, the records must be scrutinised. In a number of cases, the records did not provide enough information to respond effectively. The lack of comprehensive clinical records poses a risk to the service user, staff, management team and organisation. Review of the literature provided standards that could be used for audit locally. Dental Council and HIQA expect high quality records and advocate the use of audit to achieve this.

Stage 2: Selecting criteria

This project is concerned with process outcome with respect to the clinical records. The writer used several guidelines published by recognised dental bodies combined with the needs of the staff within the area to develop criteria. Donabedian (1966) referred to this as measurement standards. The audit was structured as a yes/no response (e.g., name, address) or a '1' ('some detail') and '2' (detailed clinical ir

Stage 3: Measuring level of performance

Identifying users: This project audited the records of emergency patients. They attend at 9am every weekday morning in all of the clinics in the area. The users in this case are the dentists working in the area, treating the emergency patients.

Sampling users: Pre-change audit- after discussions with the PDS, it was decided to sample ten patients per dentist of the previous month. Some dentists would not have seen more than ten emergency patients, so these were selected. For other dentists, the author sampled one per day, selecting them at random. Post-change- the writer audited every week, so sample numbers were limited. It was decided to sample three patients per dentist, again, using the criteria for the pre-change audit.

Handling data: The data source was the computerised dental record system. This information system provided all the details required for the audit. The required data was extracted and entered into a spreadsheet developed by the writer and PDS. As only one person was auditing, there was no need for calibration.

Data analysis: Calculation of percentages was deemed to be the most appropriate method of analysis as the results were easily interpreted by others.

The writer divided the data into different sections corresponding with the layout in the dental record. These were:

1. Details tab;
2. Medical history tab;
3. Consent, date and autoclave recording;
4. Signs and symptoms, examination, diagnosis and treatment plan.

See figures 7, 8 and 9 for an example of the computerised dental chart. Please note that the clinics in the area have been blocked out and the patient in the chart does not exist.

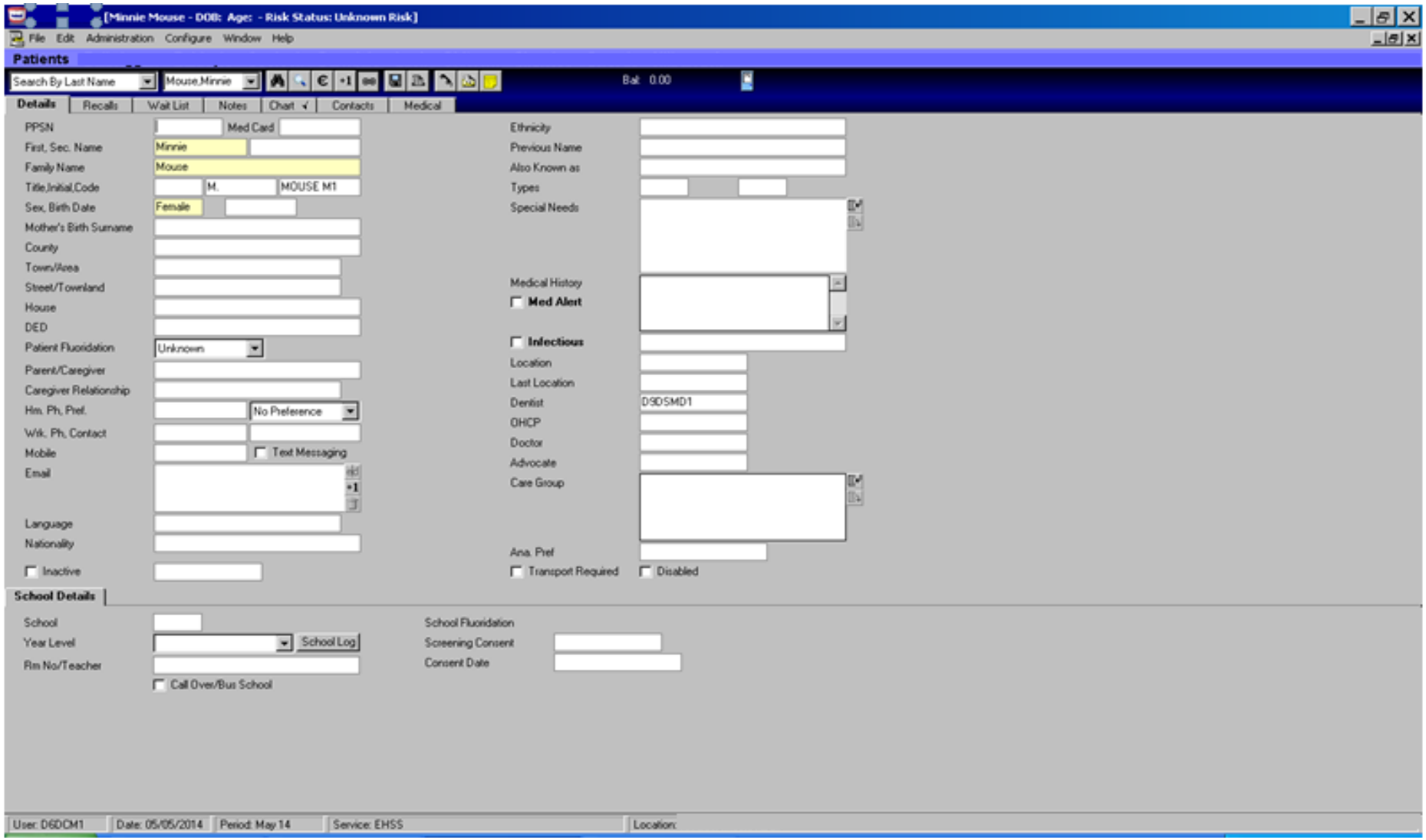

Figure 7: Dental record- details tab

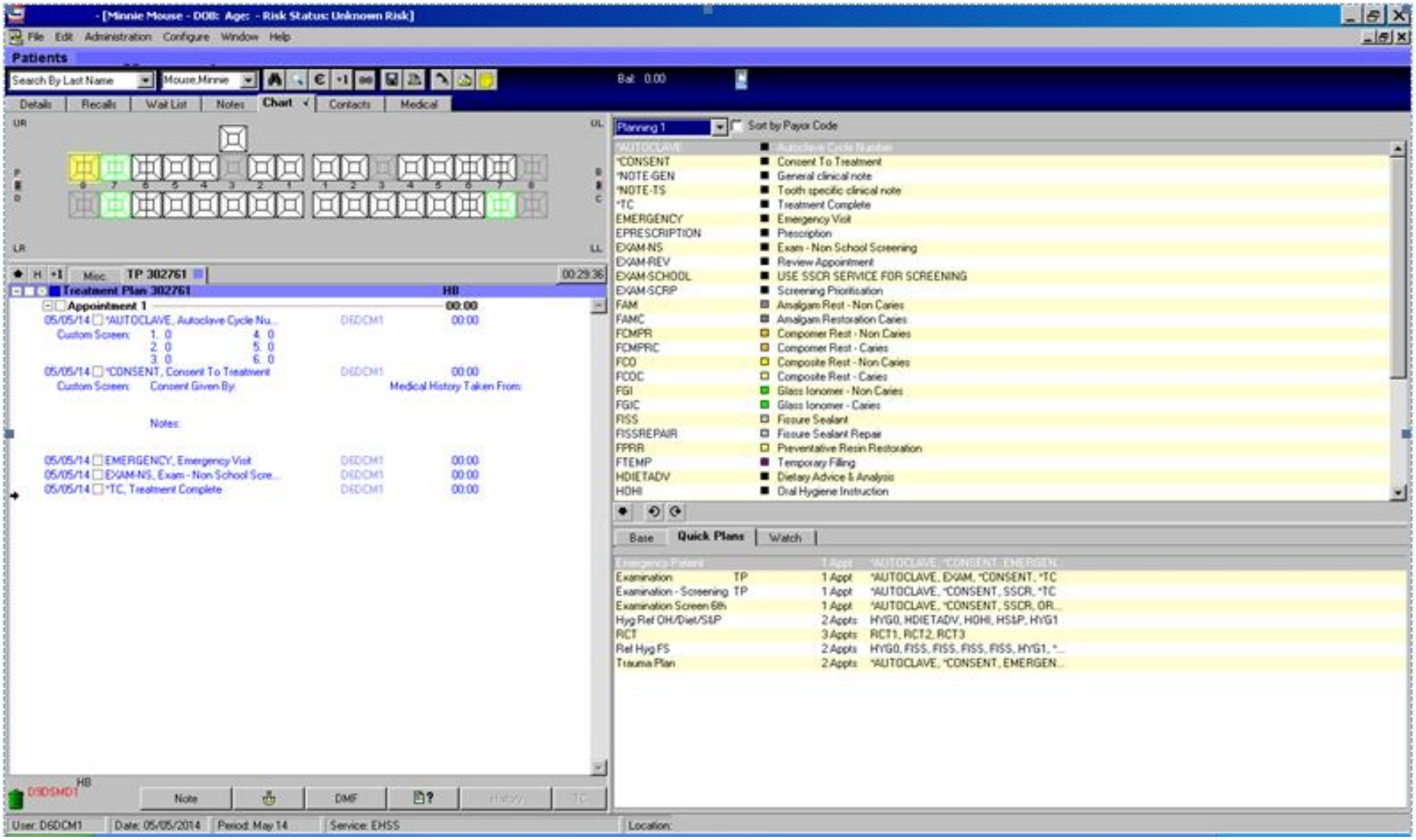

Figure 8: Dental record- chart tab

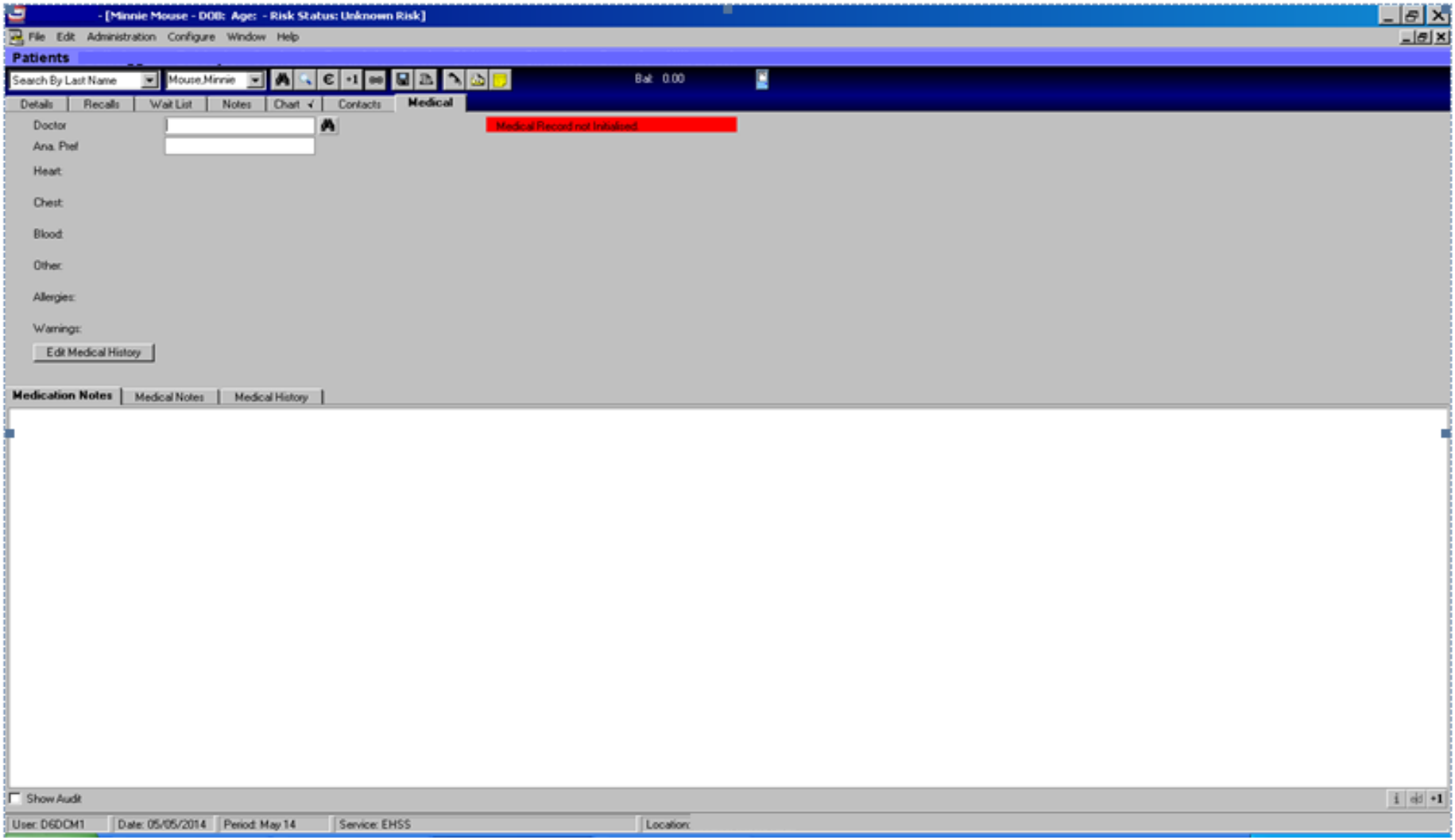

Figure 9: Dental record- medical tab

The audit tool used for the project is shown in appendix 6 and corresponds to the layout in the dental chart. Figure 10 is a section of this audit tool that corresponds to the results in the following graphs.

Diagnosis etc								
Patient code	complaining of	where	when	how long	what	Exam	diagnosis	treatment plan
	0/1/2							

Figure 10: Section of audit spreadsheet

Results of audit

For the purpose of this thesis, the writer has included the graphs for the sign, symptoms, examination, diagnosis and treatment plan. 'c2 corresponds to de notes, '1' is a nodme 0 detcaoirlresponds. See appendix detail 7 for additional graphs.

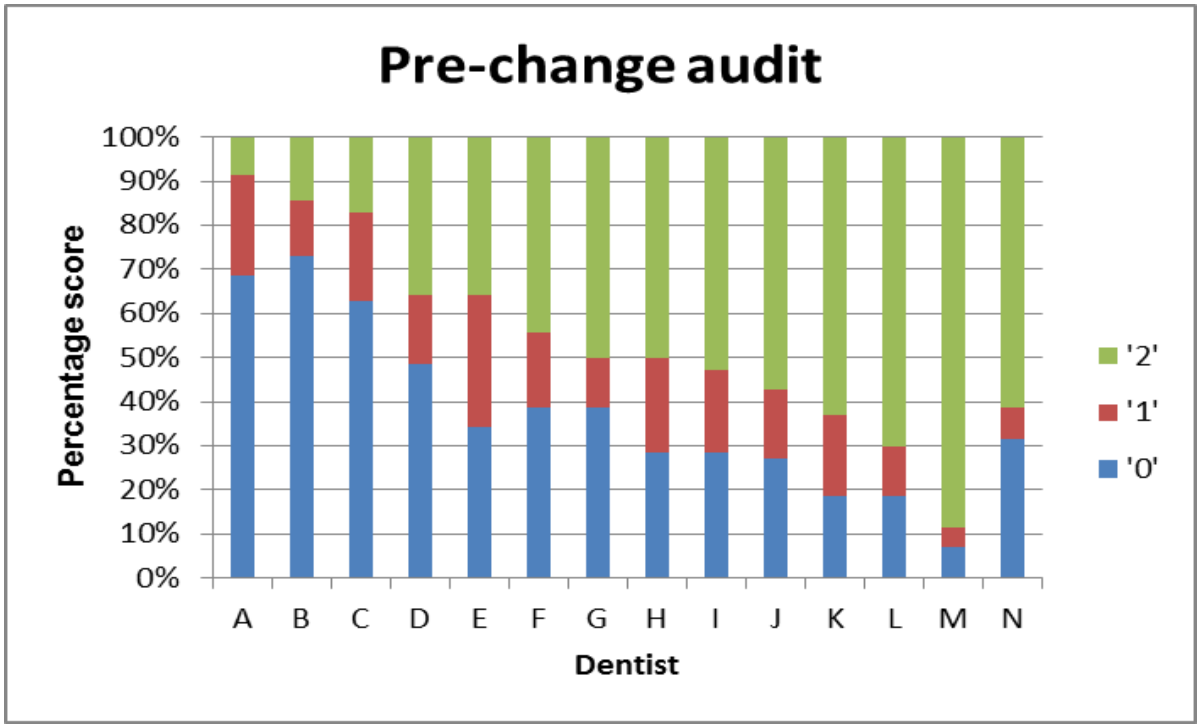

Figure 11: Graph representing information recorded pre-change

Figure 11 represents results pre-change. Nine dentists are recording information (grade 1 and 2) in at least 60% of cases, with varying levels of detail. The least amount of detail is dentist B who has recorded information in less than 30% of domains. One dentist meets the required standard of 90%. One interesting finding that is not evident in the results table is that for some of the dentists, their records were no better on quiet days compared to busy days. One would almost expect the quality to be lower on busy days but often this was not the case, so any arguments about lack of time do not hold true.

Other findings of the audit found that six out of 140 charts had no information recorded regarding the emergency visit and one chart had no general anaesthetic referral completed. 16% of medical histories were not updated at the emergency visit which is a worrying finding and increases the risk of an adverse outcome. School,

location and dentist were the least recorded items in the details tab. The lack of this information can distort results when computer-generated reports are produced.

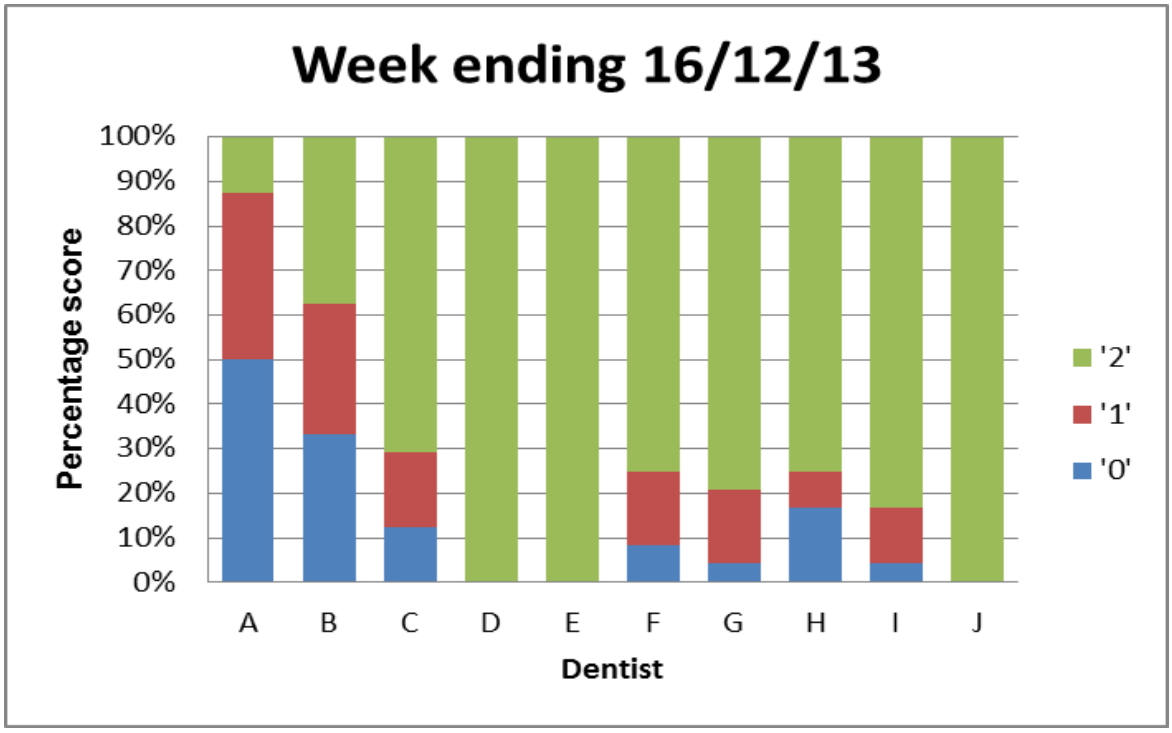

Figure 12: Graph representing information recorded 16/12/13

Figure 12 represents results of the audit week ending 16/12/13. There were less dentists audited as some may not have been in clinics and not seen any emergency patients. Three dentists scored one hundred percent (grade 2), three dentists scored above ninety percent (grades 1 and 2) and two dentists above eighty percent. Dentists A and B fall short of the standard required.

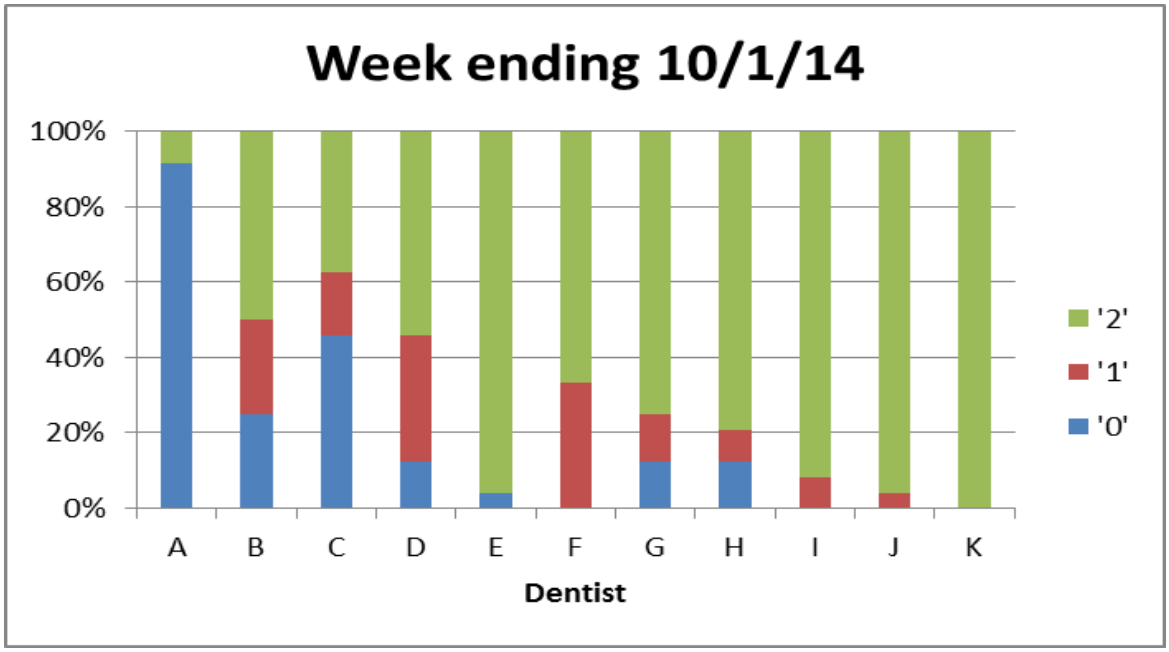

Figure 13: Graph representing information captured week ending 10/1/14

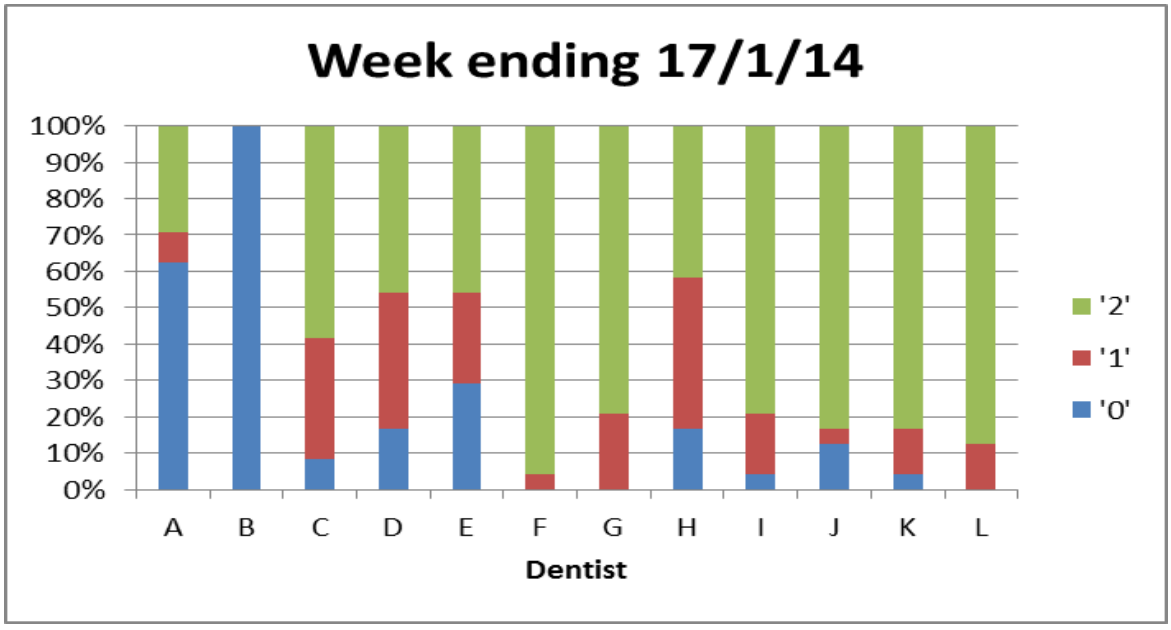

Figure 14: Graph representing information captured week ending 17/1/14

Figure 13 and 14 show a slight decline in the information captured. This may be due to the time since the intervention. Another item of note is dent

entries, but they only saw one emergency patient during this week, which affected the results. The writer contacted the dentists with poor results and explained that the records were not meeting the standards expected and questions as to what barriers may be in place.

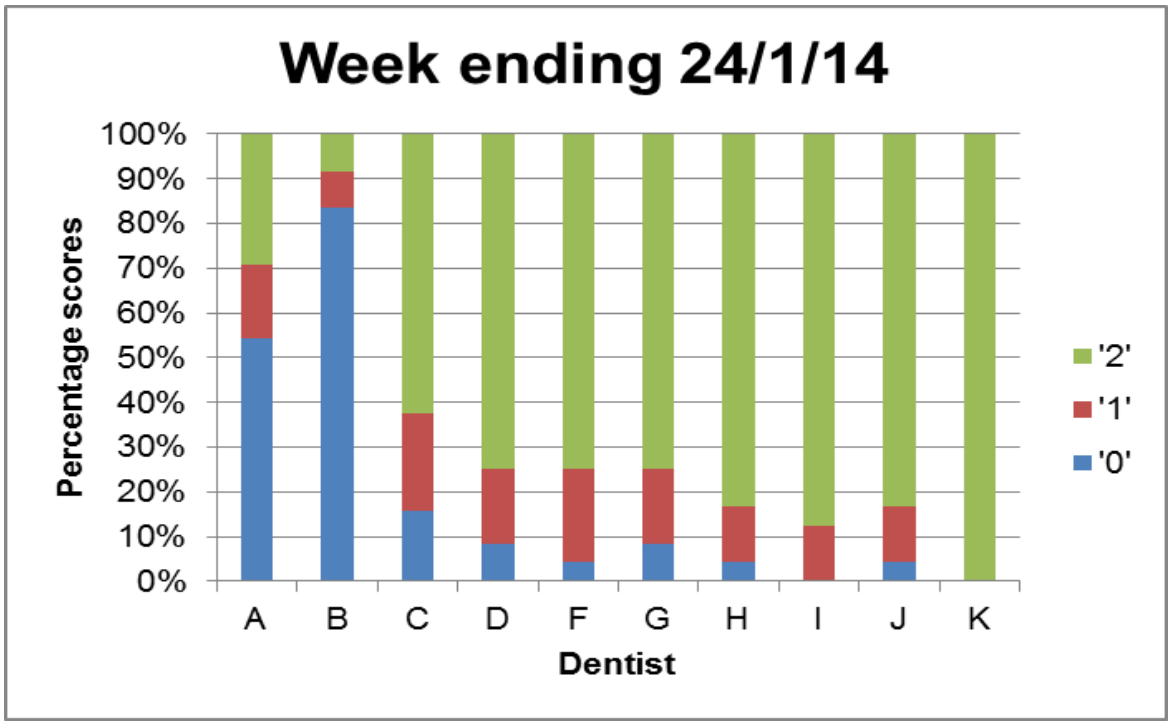

Figure 15: Graph representing information recorded 24/1/14

Figure 15 represents the results of the audit week ending 24/1/14. Seven dentists are achieving a score of over ninety percent (grade 1 and 2) with another at over eighty percent. However, two dentists are still consistently underachieving.

Figure 16 illustrates the percentage of dentists achieving the required standards for each section. The numbers were shown as a percentage to aid comparison between

the weeks. There have been significant improvements when comparing the pre-change week to the last week, with some variation in between. The consent component has seen an increase to 100% and the information component has improved considerably. However, there is still more to be done to improve the situation further.

	Pre-change	16/12/13	10/1/14	17/1/14	24/1/14
Details tab	64%	80%	100%	75%	90%
Medical history tab	21%	70%	54%	83%	90%
Consent/ autoclave	79%	100%	100%	100%	100%
Sign, symptoms etc recorded (1&2)	7%	60%	54%	50%	70%

Figure 16: Table of weekly results

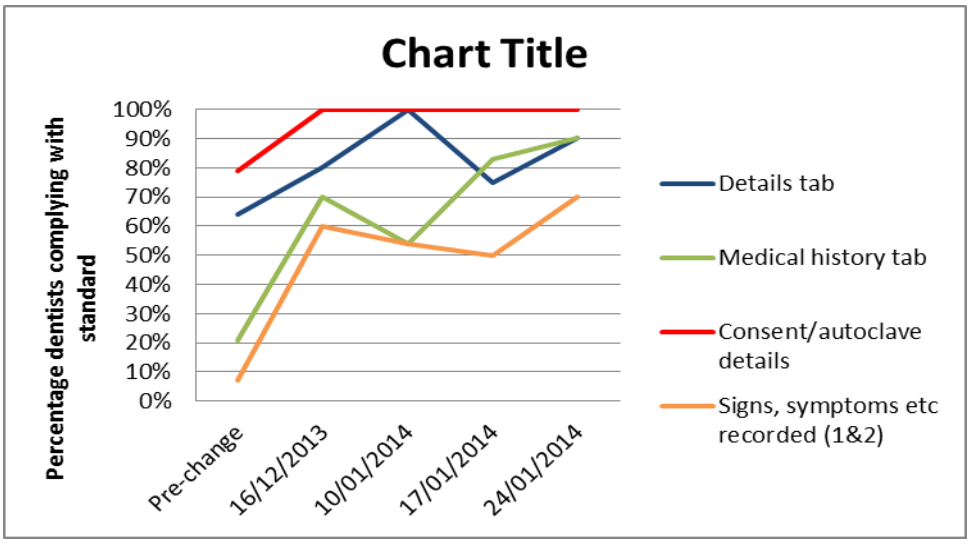

Figure 17: Line graph of audit results

Figure 17 demonstrates the percentage of dentists meeting the standard of 90% compliance for each tab. There is a general upward trend in each domain, which is encouraging but further improvements are still required.

Stage 4: Making improvements

The change process as discussed in methodology chapter.

Sustaining improvements

Regular collection of data is essential in assessing and maintaining improvements. These results must be relayed to the staff in a non-confrontational way so they can assess the improvement themselves. The weekly audits were relayed to the staff via email with details of what areas needed to be improved. As can be seen from the graphs, most dentists are complying with the change with the exception of a small minority. The issue should be addressed with face-to-face or telephone conversations, asking why there is no improvement and what can be put in place to assist the staff achieve the goal.

Evaluation of feedback questionnaires

It is an important part of the change process to study how the change has progressed and to make further improvements. Audit measures the compliance with standards but the writer considered it was a worthwhile exercise to evaluate

feedback from the staff involved in the change. A questionnaire was designed to assess the prompt cards usage, design and improvements that could be made. An email was circulated with the questionnaire attached asking dentists to complete it and return to myself. It was explained that they would be confidential and honest answers were needed to be able to make improvements. The writer also telephoned several of the outlying clinics to encourage participation. Appendix 8 shows the questionnaire.

Results of questionnaire

The writer received nine responses out of eleven. Two questionnaires had written comments but were not completed. Both dentists did not like the prompt cards so it could be assumed that their answers would be on the lower end of the Likert scale. Some had multiple answers or no answer for some questions which can also make it hard to evaluate. See figure 18 for details.

- Four out of seven respondents use the cards once a week which is the highest score;
- Seven out of seven found the trauma card most useful;
- Four out of seven found the layout excellent;
- Five out of seven agreed the trauma card had the correct amount of information;
- Two out of seven found the pain and concern card the least useful;
- One found the layout and size fair;
- One found the ease of use poor.

	How often do you use the prompt card?				
Every day					
Once a week	4				
Occasionally	2				
Never	1				
	Which prompt card do you find most useful?	Which prompt card do you find least useful?			
Pain	1	2			
Swelling	1				
Trauma	7				
Concerns	1	2			
	Physical properties: Layout	Physical properties: Font	Physical properties: Size	Physical properties: Ease of use	
Poor (1)				1	
Fair (2)	1		1		
Good (3)	1	2	1	2	
Excellent (4)	4	3	3	2	
Superior (5)	1	1	1	1	
	Pain prompt card has the right amount of information	Swelling prompt card has the right amount of information	Trauma prompt card has the right amount of information	Concerns prompt card has the right amount of information	The topics in the prompt cards are relevant to the emergency patients
Strongly disagree (1)					
Disagree (2)					
Neutral (3)	1			2	
Agree (4)	2	3	5	2	4
Strongly agree (5)	3	3	2	3	2

Figure 18: Results of questionnaire

The writer also allowed the participants to make comments with respect to each domain. It was felt that it was important to do this so that people could expand on their answers. Some of the comments were:

- ‘Not used in front of the patient’. The prompt cards were designed as a reminder and whether they are used in front of the patient is irrelevant as long as the records contain adequate information. The writer can conclude that the communication regarding how to use the prompt cards was inadequate.
- ‘Include status for a trauma’. One of the reasons for the feedback questionnaire was to gain information regarding the content of the prompt cards and improve as required.
- ‘Not appropriate for dentists who have been qualified for years’. The prompt cards were not designed to teach the staff things they did not know, rather, to act as a reminder to what they do know. In the communication during the presentation, it should have been emphasised that the prompt cards were a tool and their use was not compulsory.
- One dentist said that all the cards were useful and has realised that they need to use them more often.

Evaluation using the HSE change model

Part of the Mainstreaming section of the HSE model provides questions for the project leader to evaluate the process. Some of the questions posed are:

¶ What did we set out to do? Did we achieve what we set out to do? If not, why not? The writer set out to improve the amount and quality of the information captured in the emergency dental record. Although still not perfect, there have been substantial gains by the majority of staff. For the individuals who did not perform as well as their colleagues, the reasons could be manifold. They may think that their records are adequate enough, that there is no need for improvement or, perhaps, that the writer is being too fussy. The writer may not have conveyed the message clearly for them to grasp the details of the change.

¶ What worked well that we could do more of? Part of the change involved using 'quick plans' in the healthcare record. The dentist or trained nurse will click on the relevant quick plan for that patient and a list of entries comes up in the treatment section. For example, when using the emergency quick plan, entries for consent, autoclave details, emergency visit, exam and treatment complete appear in the system. It means that the dentist is less likely to forget to complete the necessary questions. Development of the quick plans for other types of visits will be carried out.

¶ What did not work that needs improvement? The communication strategy needs to be enhanced. The geographical distance of the clinics necessitates that communication relies on telephone conversations and emails. Face-to-face communication may have been more effective but is not always possible.

¶ What should we stop doing? It may be a case that the prompt cards are not developed further as they are time-consuming to design and fabricate. Other methods of reminding the practitioner should be investigated by forming working groups of dentists to collectively examine the issues.

¶ To what extent have the needs and interests of each stakeholder group been achieved? The National Dental Office and PDS are interested in the quality of information captured within dental records. The evaluation has provided valuable information that can be disseminated to other areas. The needs and interests of the dentists are slightly different. The change may have increased the workload for some, although others were writing good detailed records before the change. However, the better quality records means they are meeting Dental Council standards. The patients and parents needs are met because the records communicate more to the clinician treating them, especially when different dentists may provide treatment them on separate visits.

¶ What is the information from specific measures of organisational performance and outcomes telling us about the success of the change process? Some staff are achieving 100% compliance with their clinical record keeping, and many are within 90%. In this regard, the change process has made a difference.

¶ What action needs to be taken, based on the learning from the evaluation, to improve the change process/enable it to be more effective? Communication

and collaboration between all staff members needs to be improved both from the managers communicating the need for change and the front line staff getting involved in the process and reading and responding to emails.

Summary

The evaluation has shown an overall improvement in the quality of information captured in the clinical record. There must be continual audit to measure compliance and intervene if required. Weekly audit is time-consuming so the writer will design a modified version of the audit that will be used bi-monthly, the results of which can be used in performance reviews. Regular two-way communication is vital to ensure success of the project.

Section 5: Discussion and Conclusion

Introduction

The discussion relates the literature review to the project and compares the results from previous audits to this process. The writer examines further other aspects of the change: culture, power and influence, quality and communication with reference to literature. The conclusion provides a summary of the project and the recommendations for future improvements.

Literature review

The findings from the literature were used to develop a detailed change management plan. I examined nine papers detailing reviews of dental records with four implementing quality improvement measures. Rasmusson et al.(1994) and Helminen et al.(1998) audited against standards issued to all dentists working within the relevant jurisdictions. Morgan (2001) and Ireland et al.(2001) audited against criteria issued when dentists joined the dental capitation schemes. Smith and Farrington (2000) developed guidelines and audited against them. Pessian and Beckett (2004) delivered a presentation to a group of students detailing the importance of dental records and prompt cards were developed by Ireland et al.(2001). I applied the findings of these studies and developed guidelines, a protocol, prompt cards and an audit tool. A presentation was deemed necessary to communicate the details of the change formally. The audit was designed for the reporting of results for each dentist, similar to Smith and Farrington (2000). I have specifically looked at each dentist for several reasons; there are only thirteen

dentists so this parameter is easily measured. The results can be used in performance management and there was a considerable discrepancy between the best and worst performing staff. Presenting the results per item would not have highlighted this.

The results in the evaluation section demonstrate that:

1. Pre-change: No one achieved 100% and only one person got above 90%.
2. Week ending 16/1/14: Three people achieved 100% and three above 90%.
3. Week ending 24/1/14: One person achieved 100% and six above 90%.

These results compare with Smith and Farrington (2000), Morgan (2001) and Ireland et al (2001). However, all the authors conclude that additional training and audit are required to improve and maintain standards. In general, the younger dentists out-performed the more experienced dentists which concur with Rasmusson (1994) and Helminen et al. One reason may be because record quality is a more significant aspect of undergraduate training and younger dentists may be more aware of the importance. All of the papers detailing a quality improvement initiative highlighted the need for further training and review of records. A significant proportion of records did not reach the set standards even after the initiative. The results of this project would coincide with these findings. Further training and discussions with the dentists is vital for the records to reach the set standards.

Leading the Organisational Development

There are several aspects of the OD that the writer had to take into account when carrying out the project. These are: culture, power and influence, quality and communication. Leadership is also included within these sections.

Culture

When examining stakeholders and resistance, one must take into account the inherent culture of the department and organisation. Schein (1996, p11) defines culture as ‘a set of basic tacit assumptions about that a group of people share and that determines their perceptions, thoughts, feelings, and, to some degree, their overt behaviour’. He goes on to describe culture a three levels; deep tacit assumptions, espoused values and day-to-day behaviour. Schein (1996) also recognises there are subcultures, such as those based on shared assumptions or occupation. Christensen and Shu (2006) view culture as dynamic which can change either because of a crisis or sequentially by an accomplished person. It would be expected that certain cultures are more amenable to change than others (Md Zabid et al. 2003). To assess the type of culture, I have employed the sociability and solidarity dimensions (G description of cultures.

Sociability and solidarity dimension

The writer carried out a sociability and solidarity test for the department. The findings were:

1. Physical space- networked. I felt this was the closest description to our physical space, although not entirely accurate compared to the description provided. Dental clinics, as part of health centres are closed offices, but this is due to the nature of the work involved

2. Communication- networked. There is abundant communication but often in a very formal way.
3. Time- networked. People know others well, but work is not considered a social outing. There is rigid clocking in and out times, which differs from the networked long day.
4. Identity- networked. The staff and clinicians identify with each other and would have similar values.

Using the corporate character questionnaire in part two also elicited a response of 'Networked'. Parts three and four determine negative. Both tests scored positively overall. However, I do not feel that it reflects the low morale that some people are suffering caused by recent pay cuts and loss of annual leave.

Types of culture

Handy (2008) describes four main types of culture; power, role, task and person culture. I work for a large public sector organisation that has a role culture. There are several pillars forming the sub-structure, a small group of senior managers and most roles within the organisation have defined job descriptions. This culture works well when the environment is stable but does not always cope well with change. They can be slow to perceive the need to change and slow to change once the need has been identified. These cultures tend to offer predictability and stability (Handy 2008). When examining the organisation, the role culture would be most suited. It is a large organisation and thus must have set procedures in place. However, there is a person culture operating within my department to a lesser degree. The individual is at the

centre and the structures are there to assist that individual. Both role and person culture must be considered when developing a change management plan. The dental record is fundamental to patient care and it is vital that adequate information is captured. Some dentists would be slow to change their working habits so I had to create a sense of urgency for them to perceive the need to change (Kotter 1995). It was imperative that progress was acknowledged during communication of the weekly audit results whilst at the same time highlighting areas for further improvement. Consultation with dentists was employed to reduce resistance due to person culture.

Power and Influence

Power and influence are an important aspect of any change process. Power can be summarised as the 'ability to make things ha
order to achieve desired objectives or re, p195). Handy (Seni
(2008, p123) perceives influence as the 'process where 'A
attitudes or behaviour of 'B' and. Ihadow
reflect on the level of power of myself and the PDS and assess the recipients and their views of the change initiator. Using this knowledge will determine the methods employed to influence the staff.

Power and influence in relation to this project

Using H(a2008) definitions of power facilitated the type of influence utilised. I am a senior dentist but would have little position power and may be viewed as a

peer. Handy (2008) describes the concepts of relativity of power. If the power source has no consequence for the receiver, then that power source is ineffective. In this case, any position power that I may have likely to be unsubstantial as the other dentists would not see me as being of a higher position. The PDS, because of their position within the organisation, would be seen to have more position power. The type of influence available to the writer and PDS would also be different (see figure 19).

	Author	PDS
Type of power	Some position power	Position power Some personal power
Type of influence	Persuasion	Rules and procedures Ecology Persuasion

Figure 19: Power and influence of writer and PDS

I concluded that to achieve buy-in, the techniques may be different to that of the PDS. The main method at my disposal was persuasion. The PDS can implement rules and procedures and alter the ecology of the department.

Types of persuasion used

The literature describes various ways of persuading people to follow a per s o n ' s initiative. One method used was the gathering of evidence to explain why change was needed. This reflects that persuasion relies on logic and evidence (Handy

2008). In this case, I was establishing credibility for the change (Conger 1998). During the PowerPoint presentation, I clarified why the practice of record keeping needed to be improved and emphasised that it would benefit dentists. According to Cialdini (2001) and his principal of social proof, persuasion can be extremely effective when it comes from peers. When sending the results of the weekly audits, I made sure that I acknowledged the hard work and how some of the results had improved. Cialdini (2001) views praise as one way of persuading people to change. Another technique is to view points and ideas when trying to alter or modify another behaviour (Conger 1998). The questionnaire sent to the dentists was designed to obtain feedback and thoughts so I could consider other points of view.

Response to influence

Handy (2008) cited three responses to influence; compliance, identification and internalisation. Compliance requires maintenance or checking by the initiator and is sometimes done begrudgingly. Managers may to persuade people to change and hope that the response will be accepting. Often, they will end up using position or resource power which results in compliance. Identification occurs when the person identifies or admires the initiator. Internalisation results when influenced person adopts the idea as their own. This is the hardest and takes the longest and may be impractical from a time perspective. Compliance was the response expected in this project with the audit measuring conformity. Perhaps over time internalisation could occur but it will take a significant amount of work to achieve this.

The results of the weekly audits suggest that the techniques adopted to influence staff were successful. Continual effort will be required to prevent relapse to previous

standards. Persuasion has proved to be effective in this project and should be utilised in future communications.

Communication

Communication is an essential component of change management and a project may fail without effective communication. There are several different methods including face-to-face, telephone, email and text messaging. Email has grown in popularity over the last number of years, especially within the workplace. It should make life and communication easier, but is rarely part of the job description and can intrude on one's work (Derks & Bakker 2010). There a compared to face-to-face communication but several disadvantages as well.

Face-to-face communication allows an immediate two-way flow of information and reading of non-verbal language (Moore et al. 1999). There are two main reasons that ideas are exchanged more readily when colleagues communicate face-to-face. First, the physical proximity of face-to-face meetings allows for social and information exchange. There are more opportunities to interact and thus increases the speed at which problems can be resolved. Second, face-to-face can occurs over one session whereas email exchange may take hours or even days (Thompson & Nadler 2002). I am a visual person and prefer face-to-face compared to other forms of communication. I prefer to use the telephone for communicating quick messages rather than in depth conversations. There is a definite drawback with communication over multiple locations. However, technologies such as 'Go overcome some of these difficulties.

There are many benefits of email compared to face-to-face communication. Email can be quick and convenient and allows the sender to reach multiple people in one go. However, the lack of non-verbal communication can lead to miscommunication (Kruger et al. 2005). The authors carried out a study to assess if subtle forms of communication, such as sarcasm or humour, were conveyed via email. They found that the participants over-estimated their ability to communicate emotions in emails and those senders tended to focus on their own experiences and not that of the recipient. Thus, the sender read their own email as they would read it as a recipient. The authors also found that the participants over-estimated their ability to read and interpret emails they received. Non-verbal interactions could depersonalise an effect and lead to more negative behaviour (Bargh & McKenna 2004).

Email was the form of communication used to give a brief description of the change and communicating the results of the audits. When sending the emails, I attached a 'read receipt' to the email me to know when the email was opened. Over time I found was that the number of acknowledgements decreased. There could be two reasons for this. First, the dentist did not open the email. Second, the 'read receipt' box allows the recipient to send an acknowledgement. This means that the sender does not know if the recipient has opened the email or not. Mazmanian et al. (2006) cited there were two types of behaviour in relation to answering emails. Constant responders would reply as soon as the email was received and batch responders who would decide whether to respond straight away or wait. This tactic can give the responder a feeling of control over the sender. I contest that this is similar to a recipient is not sending an acknowledgement. Moore (1999) suggests that emailing people that are part of the sender's shared group can increase compliance and lead to

mutual co-operation. I have found that not to be the case in this project perhaps because people prefer the feeling of control over the sender.

In hindsight it would have been useful to keep a track of those members of staff who did not send an acknowledgement. I could have then telephoned the individuals and asked why they were either not opening their emails or not acknowledging receipt of the email. This phenomenon also occurs with my PDS and the senior nurses. One way to overcome this problem would be to ask the clerical officer in the department to send the email out on my behalf. Another option would be to disseminate the results at area meetings. However, since these would happen only three or four times a year, it is not a practical option. This highlights one disadvantage of email over face-to-face communication. Thompson and Nadler (2002) carried out a study involving students from the Kellogg Management School involving negotiation via email. One group used only email negotiation whereas the other made a brief telephone call before the email. The authors found that the group the made the telephone call performed much better than the other group and that multiple forms of communication work better than just using one form. I could employ this tactic more in the future.

There are many types of communication and it is important to use the appropriate form or use multiple modalities. Email is quick and can reach multiple users, especially when there are different locations. It is necessary to remember there are other forms of communication and using them in combination can elicit enhanced results.

Quality

Ovretveit (1998, p 231) defines health service quality those most in need at the lowest cost, and w

The Health Foundation (2013) has postulated that quality in healthcare should have six characteristics:

1. Safe;
2. Effective;
3. Person-centred;
4. Timely;
5. Equitable;
6. Efficient.

Two ways that quality can be improved is via continuous quality improvement and internal and external motivators (e.g. professionalism and performance indicators). Ovretveit (1998) states that evaluating quality involves measuring quality and judging the value of that measurement, usually through comparison. When measuring professional quality of a service, as in the case of this project, one can either measure the process or outcome (Ovretveit 1998). The process aspect looks at how professionals carry out assessments, interventions. One way to measure and evaluate quality is by using clinical audit.

Clinical audit

Clinical audit can be carried out internally, by practitioners or peers, through an organisation or via accreditation. Audit means 'to gi check actions against expectations' (Ovretve

reviewed 93 articles about clinical audit and found four common themes; the professional benefits, disadvantages, barriers and how to promote successful audit. The benefits of audit are that there can be an increase in professional satisfaction and knowledge and can be a stimulus for change. It can also increase gains in patient care and service delivery (Johnson et al. 2000). From a personal point of view, I have found the process of developing guidelines, the audit tool and evaluating a worthwhile exercise. I have augmented my knowledge of the area that was disseminated to others.

One disadvantage of audit is that it can increase workload and is time-consuming (Buetow & Roland 1999). If it is additional to current work, there is a risk that quality of the audit is compromised. There needs to be protected time by either assigning the work to other staff, who are required to carry out audit as part of their training, or increasing resources within the audit department (Roberts 2004). The increase in workload could detract from patient care and any resources earmarked for audit could be better redirected towards patient care (Johnston et al. 2000). Clinical audit seeks to improve the quality of patient care and several regulatory bodies in the United Kingdom recommend its use (NICE 2002). Protected time for staff is essential for audit to succeed and I spent half a day per week carrying out the audit. Another disadvantage is there may be a reluctance to criticise others work. Others may think that they are being scrutinised by the auditor (Robinson 1996). When carrying out my audit, I was aware that the dentists may feel that they were being watched. It was important to explain that this process was not about what happened in the past, but to recognise failures and to rectify these for future patients. I instilled that there was a no-blame culture and that I was not criticising their work, especially as my work was included in the audit.

Doctors tend to be more negative towards clinical audit along with guidelines and evidence-based medicine (McDonald et al. 2005). I will include dentists within this remit as I believe that there are a lot of similarities between the professions. Brouwers et al. (2009) found that guidelines were more likely to be used by clinicians who viewed them positively and that continued engagement with clinicians is necessary for those who are not as receptive. The authors acknowledged that the limitation of the study evaluated the intention to use guidelines and not the actual use. McDonald et al. (2005) carried out a study (semi-structured interviews and observation) in a teaching hospital in Northern England to assess the attitudes of guidelines by doctors and nurses. Nurses tended to place great emphasis on guidelines and procedures and a standardised approach was seen as the best way of improving patient care. In general the attitude of doctors opposed the nurses. Many saw guidelines as unnecessary, with some citing that flexibility was vital. The reasons given was that every patient is different and the non-routine nature of the job. Nurses saw the autonomy of doctors a threat to order. The authors recognised that this was a small study and may not reflect other hospitals. When examining the use of evidence-based guidelines, Ferlie et al. (1999) concurred that autonomy of doctors was a major reason for non-use of evidence-based practice. McColl et al. (1998) cited lack of time and personal inertia as reasons.

When Leatherman and Sutherland (1998, p38) interviewed professionals, they found that there was 'faith placed in profes in healthcare' as being inadequate to support the quality agenda of the NHS. Levenson et al. (2008) carried out seminars with 800 people including doctor and other health care professionals. Amongst the findings were:

- Some doctors viewed their jobs as more complex than other healthcare professionals.
- Appraising alone would not promote trust. However, others felt that it was a positive step and would enhance professionalism.
- Regarding who led doctors, there was significant disagreement. One doctor was quoted as saying 'when they become abusive and insulting' (Levenson et al. p40).

I would concur with the findings of the above articles. When reviewing the comments of the questionnaire, there was certainly an element of 'I know' believe most of the dentists are asking the correct questions during the emergency visit but this is not always reflected in the dental record.

It is essential to remove barriers for audit to be successful. There may be a lack of good quality information to aid the clinician (Johnston et al. 2000). This is where guidelines can provide a focus. The guidelines used for this project are recognised by dental bodies. There may be a lack of an overall plan with one person holding it together. This could be true for this project as I am the only person carrying out the audit. Although my PDS is aware and helped design of the audit, we have not been calibrated, so the audit relies on me. Going forward, this is something that will need to be addressed. Johnston et al. (2000) cites the disparity between clinicians and management and the reluctance to change practice as a barrier. It is an advantage that a clinician designed and completed the audit and should lower resistance to change.

Other methods that can increase the success of audit include making the data collection more straightforward, allowing protected time and allocating adequate resources (Johnston et al. 2000). The roll out of the computerised dental record system could make the collection of some data, such as school and location, uncomplicated. It is essential to foster an environment for audit which is poignant in this project as audit was not in general use in the department. As dentists, we are not used to others questioning our ability. Communication is essential to overcome this barrier. Confidentiality in the findings is paramount when disseminating the audit results. When sending the weekly results of the audits individual dentists were not named. I was aware that it may cause hostility, so it was necessary not to disclose such information. However, the results labelled the dentist alphabetically, so it was possible to compare results of each dentist anonymously that could have the effect of the dentists questioning their work and improving, as a result.

If I were to do this project again there would be certain things that I would do differently:

- Communicate more with the dentists. I underestimated the amount of resistance that some people within the group would have. Although the information in the record increased, I may have misjudged the need for tools to help with the process. It may have been better to form a working group to tease out any issues and come up with a more appropriate action plan.
- Analyse the resistance of the dentists in greater detail. Again, I believe that communication is the key here, although, I find that many staff members are slow to open up. I understand now what the literature meant when writing about doctors not liking being told what to do. I needed to put myself into the

shoes of the other staff and assess how I would have reacted if it were me as a recipient of the change.

- Look at different types of bias that could lead to resistance. For example, satisficing, bounded reality and over-confidence bias that could cause a person to work rationally but within a simplified model and over-estimate there level of competence when it comes to clinical record keeping.

Taking everything into account, I had to be a transformational leader, with the aim of raising follower's as-per values with the expectation that I motivate the staff will perform beyond base expectations (Avolio & Walumbwa 2009). The change has been successful as the records have improved but a small proportion of dentists have not changed their behaviour to any degree. Further monitoring and communication is vital for the project to accomplish the aims and objectives.

Limitations

As with all studies, this project had limitations. The time involved in auditing the charts. It took approximately half a day per week to carry out the audit. Going forward, I would redesign the audit and carry it out on a bi- monthly basis. It would be worthwhile forming a working group for the design of audits to obtain an agreed standard across the regions and have several auditors that are calibrated accordingly.

Recommendations

- Roll out regular audit for other aspects of the clinical record. The record is fundamental to patient care. Services can be monitored and improved when the records are of sufficient standard.
- Introduce working groups for the design of such protocols and audits. This will improve the communication between staff and encourage buy-in. It would be vital to involve all members of staff in the various working groups, rather than the same group of individuals. This would allow for new ideas and concepts.
- Consider roll out of similar audits throughout the country. The literature proves that the problems of information captured in records are widespread.
- Improvements in the computer system to allow more straightforward audit. It may be worthwhile considering prompts for the required information to be included within the emergency visit entry that could comprise of a series of boxes the clinician would tick if appropriate for that patient. Caution would be noted that the information would still require some written detail from the clinician.
- The use of online survey templates that ensure questions asked in surveys are correctly answered which will lead to better analysis.

Conclusion

It was a worthwhile project to carry out as clinical records are important for many different reasons. I have learnt a great deal when it comes to dealing with people, resistance and communication. The introduction of regular audit, when not welcome

by some, is vital to continually improve the service. When reading around the subject of evaluation, I found this quote by Ovretveit (1998 p181) that rang true:

> ‘ E v a l u a t o r s s o m e t i m e s f e e l t h a t t h e y a r e
> f r i e n d .... r e s e a r c h e r s w h o h a v e i n a d v e r t e n t l
> sometimes shocked at the practical problems, the indifference and also the hostility which they encounter. Their aim, after all, is honourable: a sensible
> a n d c o m m e n d a b l e s e a r c h f o r t h e t r u t h a n d

People can feel threatened by audit. It is imperative that this resistance is overcome by acknowledging the recip i e n t ’ s f e e l i n g s b u t e x p l a i n i n g t this project show that there was an overall improvement in record keeping and this information was disseminated to all staff.

I found the HSE change model an extremely useful tool as it was systematic and gave direction. There were some additional tools that I would have found helpful if they had been incorporated into the model. These include gap and impact analysis templates which were suggested in the e-learning video as part of determining the detail for change. I found the e-learning video essential as it brought together all the tools in the hub in a clear way.

The process has broadened my horizons and prepared me for my next project.

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Appendices

Appendix 1 - PESTLE analysis

Political:

- HIQA- Statutory body. Demands good quality records and auditing.
- Government, Health minister, local TD's

Economic:

- Risk of litigation
- Re-examining of patients because of inadequate records.
- Recession- more people are accessing the service
- Uncertain economic environment
- HSE dental budget reduction
- Increasing child population in some areas of the country
- Recruitment embargo

Social:

- Increase awareness in dental health and entitlements within the HSE
- Cultural differences in Irish society
- Language barriers

Technological:

- SOEL Health- computerised dental records. Introduced in Dublin North in 2007. National rollout in 2014. Allows remote access to dental records, information gathering, audit.
- Computerised records allow standardisation of information recorded
- Email provides effective form of communication
- HSEland- provides online courses and access to HSE change hub

Legal:

- Data Protection Act
- Freedom of Information Act
- Dentist Act
- Requirement of Dental Council

Environmental:

- Badly designed surgeries
- Interruptions (e.g. telephone calls) during clinics can disturb clinician and then they forget to complete records.

Appendix 2 - SWOT analysis

Initiation ï Identifying Leveraging Points

Leaders need to carefully consider how best to explore opportunities and possibilities for change and identify high leverage actions. Leverage points are places in the organisation where small focused action can produce ripple effects in the system (i.e. quick wins). One way of identifying leverages points along with other key influencers, both positive and negative, is to do a SWOT analysis. List what you think are the relevant strengths, weaknesses, opportunities and threats in the fields below.

Project Name:

Improvement of quality of information documented in dental records

Created by:

Dr Christine Myers

¶ **Strengths:**

For the staff/HSE: SOEL Health computerised records. Allows streamlining, long-term planning, generate reports easily to provide epidemiological information. Allows audit to be carried out.

For the patient: Emergency patients will be seen promptly.

Weaknesses:

For the staff/HSE: No review process in dental.

Some staff have poor computer skills,speed of typing etc

Not using SOEL to its full potential

For the patient: Quality of records can be poor. This can lead to poor follow-up, treatment decisions.

Opportunities:

For the Staff/HSE: Staff undertaking MSC courses that require change project

New Principal Dental Surgeon in the area

Haddington Road Agreement-facilitates change

SOEL allows easier audit and evaluation

For the patient: Streamlining of services

Threats:

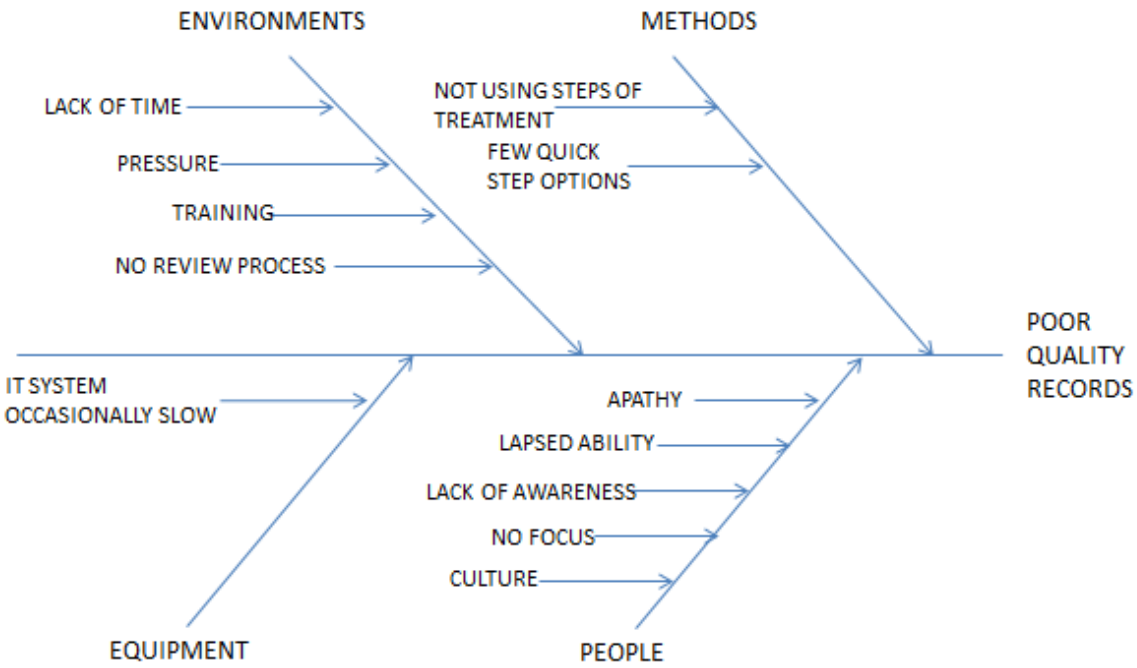
Change introduced may be too cumbersome

Emergnecy clinic seen as a walk-in for any type of dental problem

Many changes recently, pay cuts, increased hours and loss of overtime-may lead to increased resistance and decreased morale

Patients becoming more demanding

Appendix 3 - Cause and effect analysis



Appendix 4 : Force Field Analysis

Appendix 5 ï Impact analysis

IMPACT	CONSEQUENCES
Longer emergency appointments due to possible increase in workload for some	¶ Clinic may run behind as a result. ¶ Emergency time spilling over into scheduled time. ¶ Dentist blocks off longer for emergency clinic which reduces time for scheduled appointments.
Busy clinic with many emergency patients	¶ Same consequences as above. ¶ Dentists may not write up charts at the time of the appointment.
Attitudes of the dentists. Some may not see the need to improve their records.	¶ Records will not improve unless they see the need. They are at increased risk of problems unless it is addressed.
Better quality records	¶ Better follow on care for patients ¶ Reduced risk of re-examining patients ¶ Management better placed to answer queries from parents, guardians and carers

Appendix 6 - Audit tool

			details tab								medical tab		
Dentist	Patient code		Name	Address	Date of birth	contact number	School	location	dentist		medical record in date	doctors name	medication notes
		Y/N								Y/N			
		chart tab				Diagnosis etc							
Patient code		date	consent	autoclave pouches		complaining of	where	when	how long	what	Exam	diagnosis	treatment plan
	Y/N				0/1/2								

Appendix 7 Audit results graph

Details domains: Name

Address

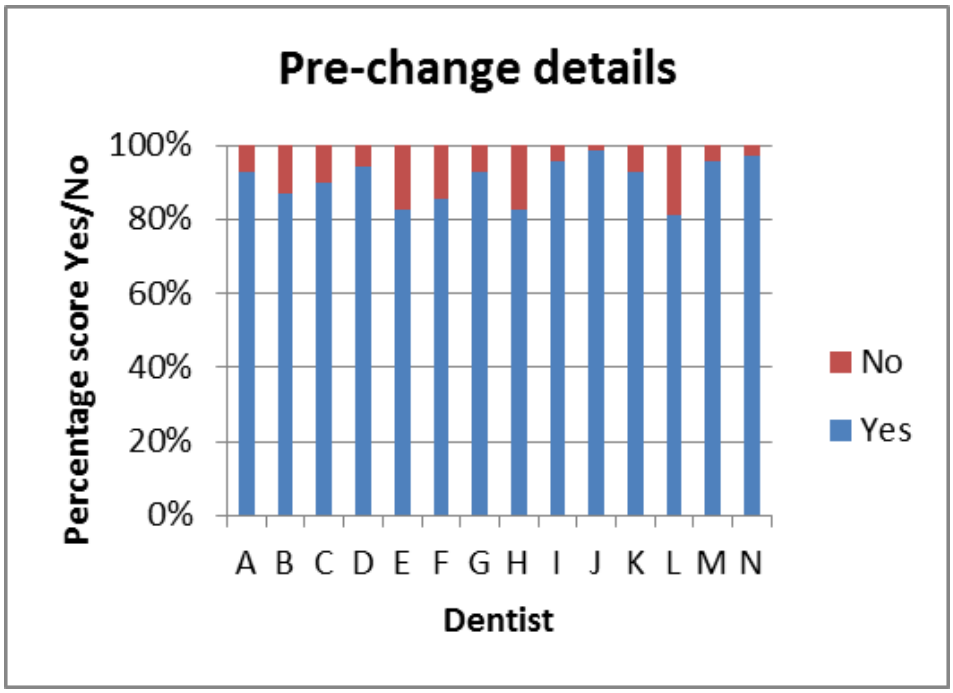
Date of birth

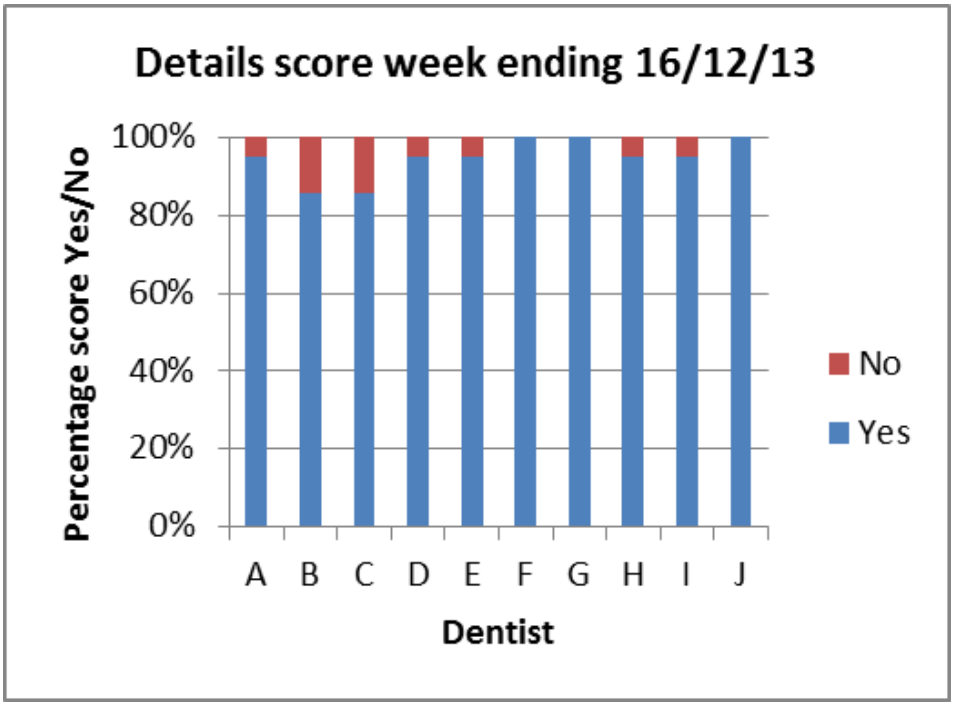
Contact telephone number

School

Location

Dentist

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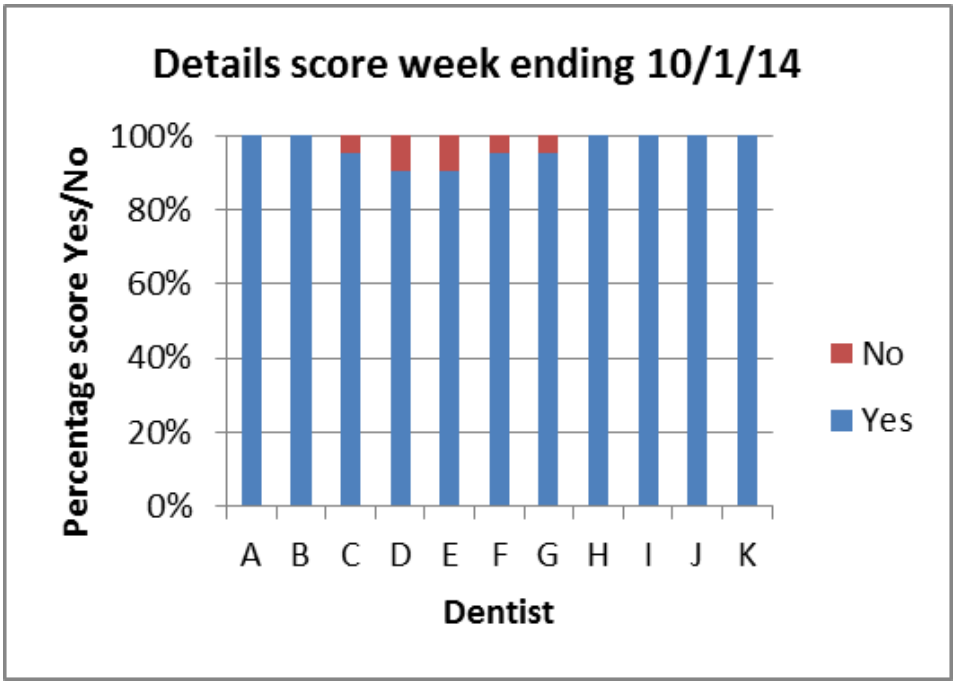
Yes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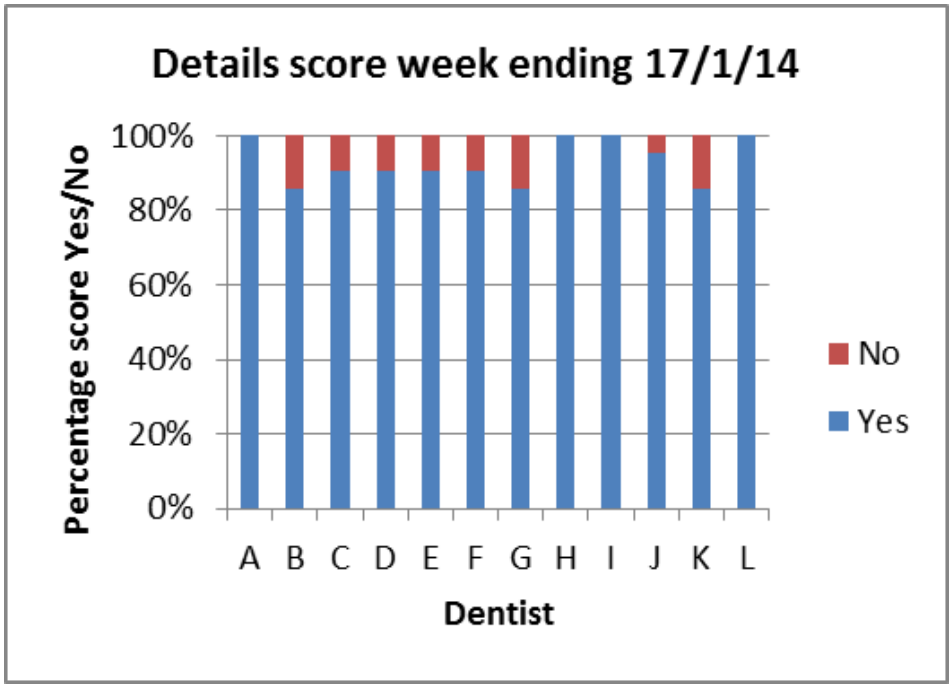
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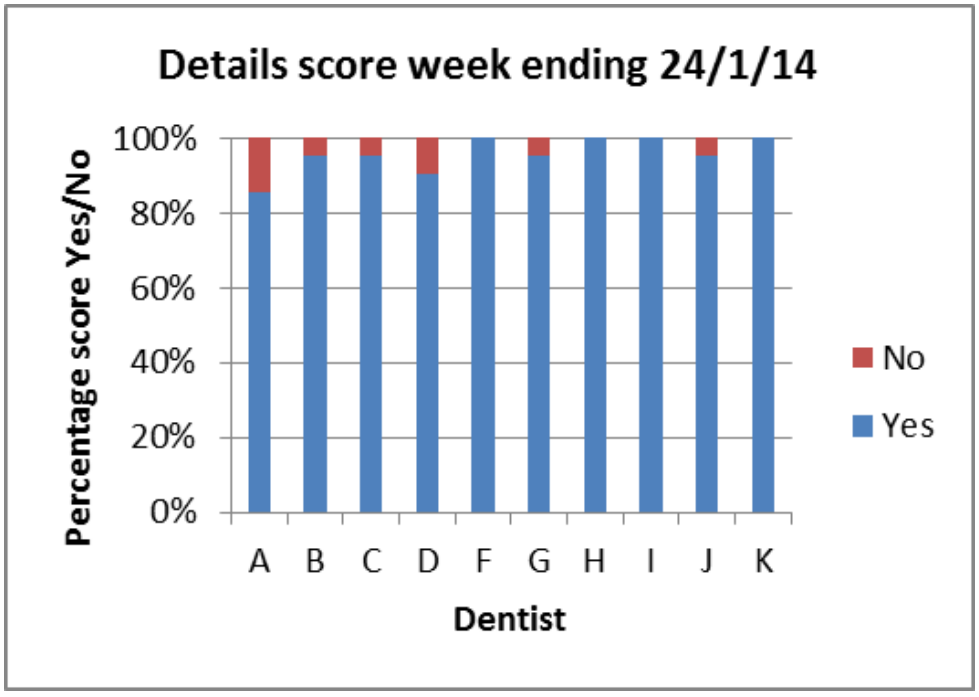
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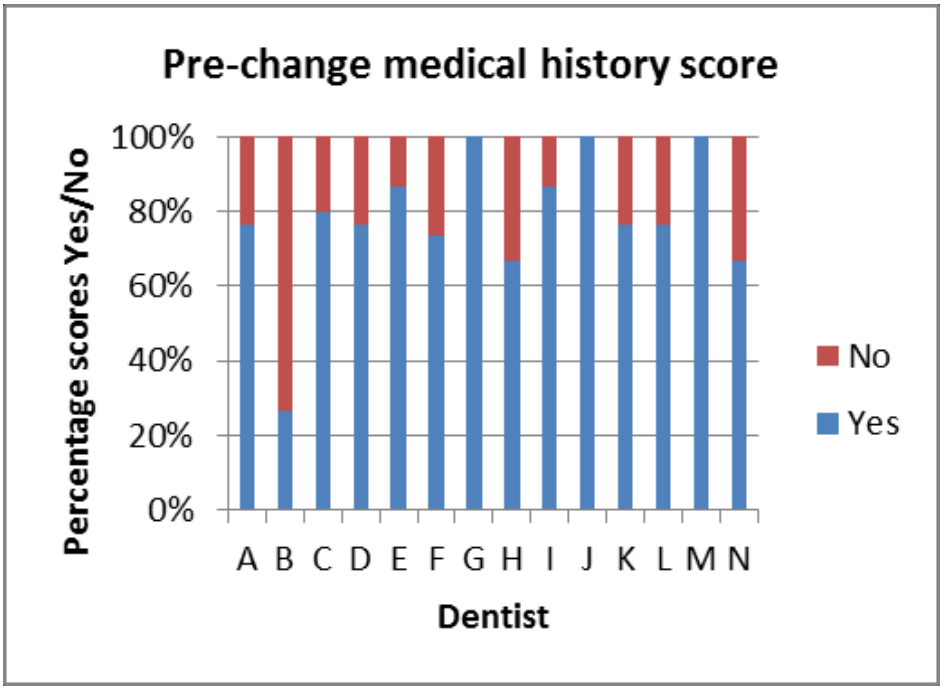
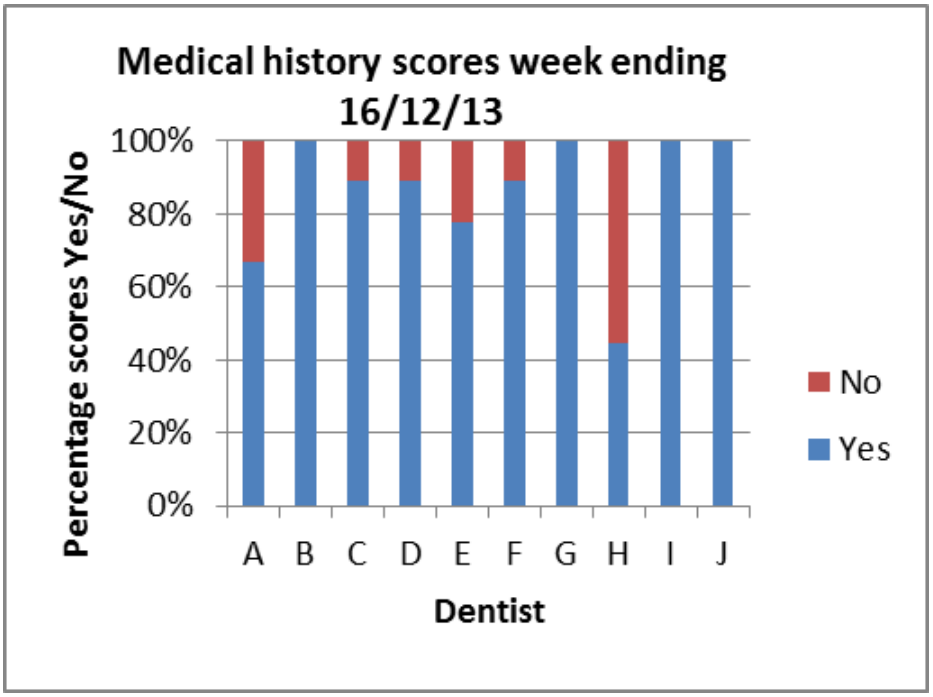
Dentist
No
Yes

Medical details domains: Medical records up to date

Doctor's name recorded

Medication notes up to date

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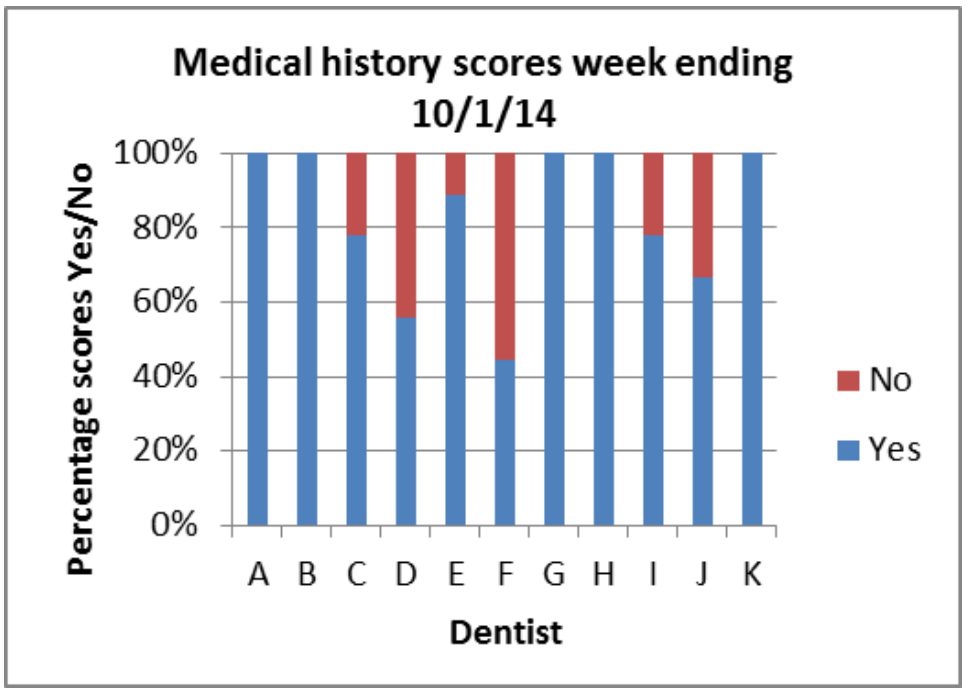
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Dentist
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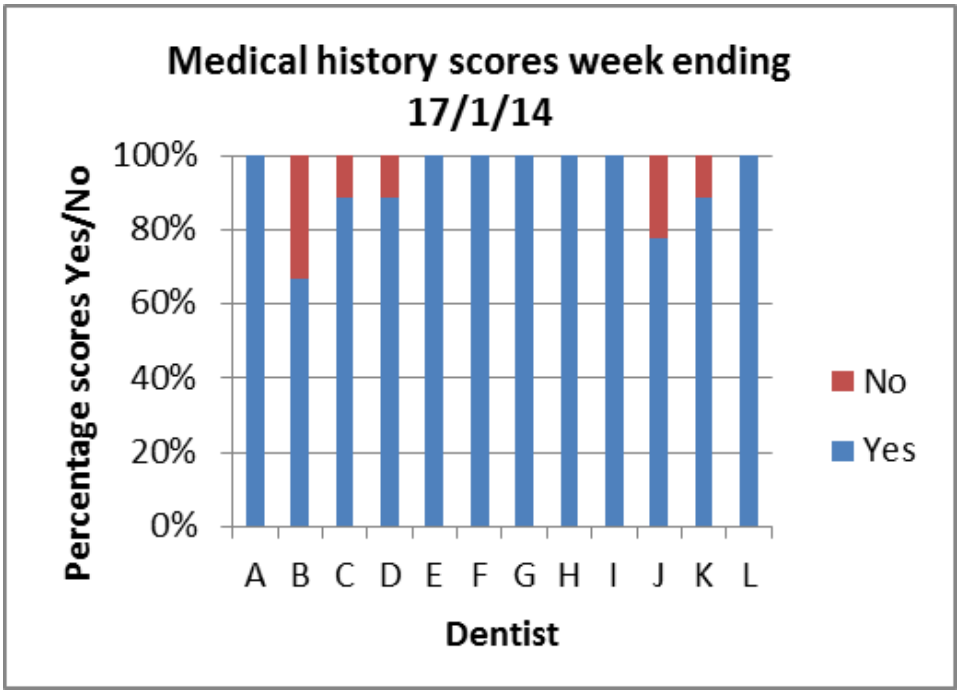
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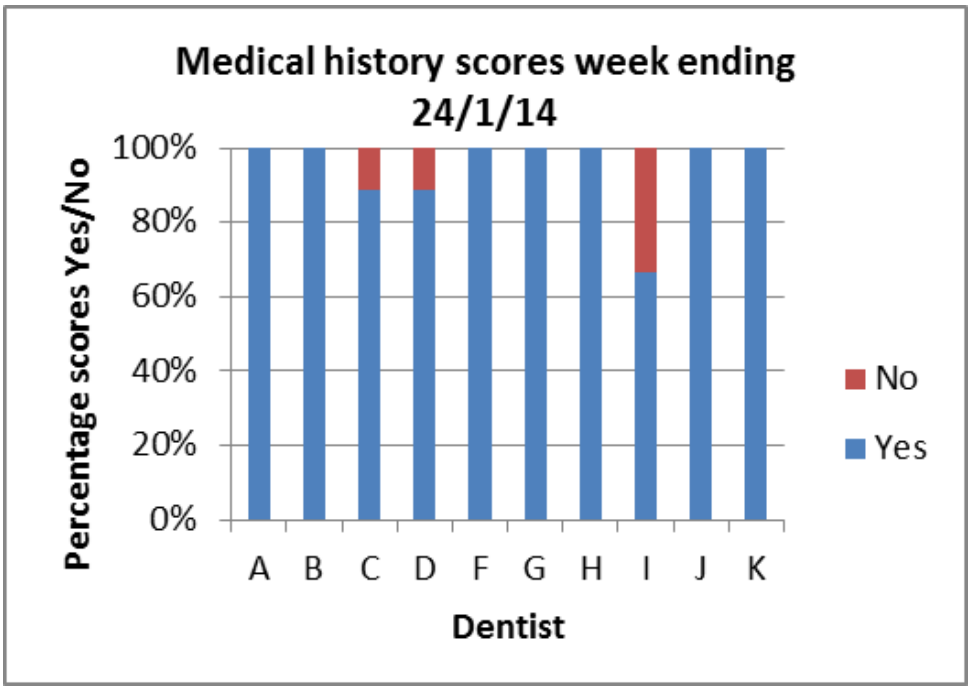
A B C D E F G H I J K L
Dentist
No
Yes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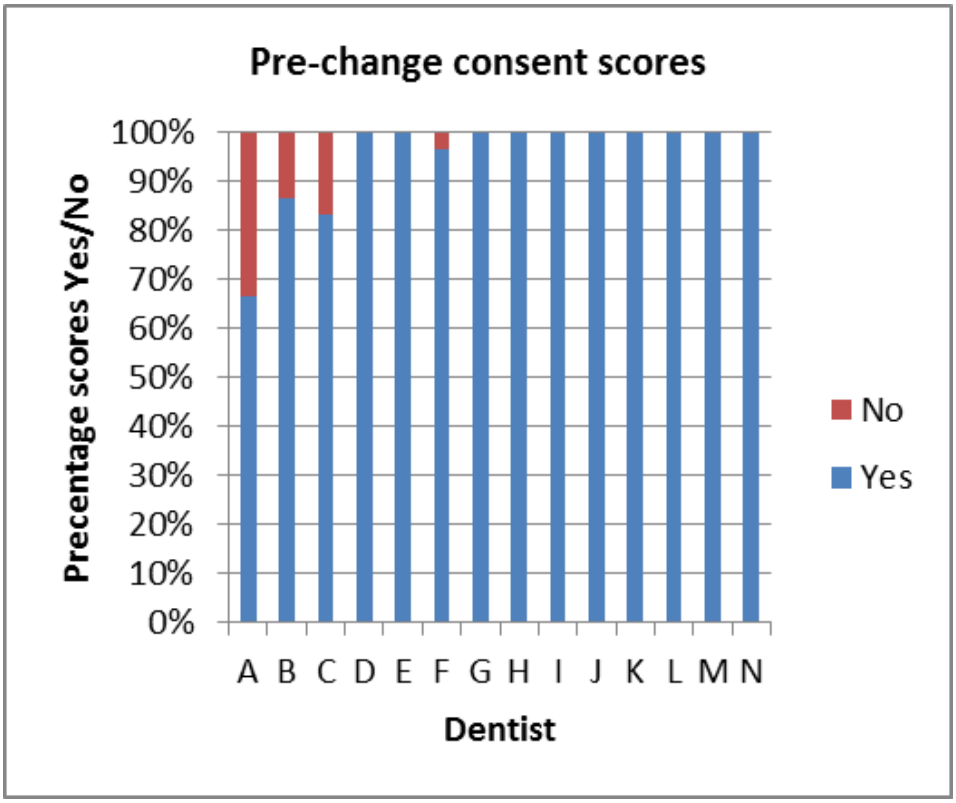
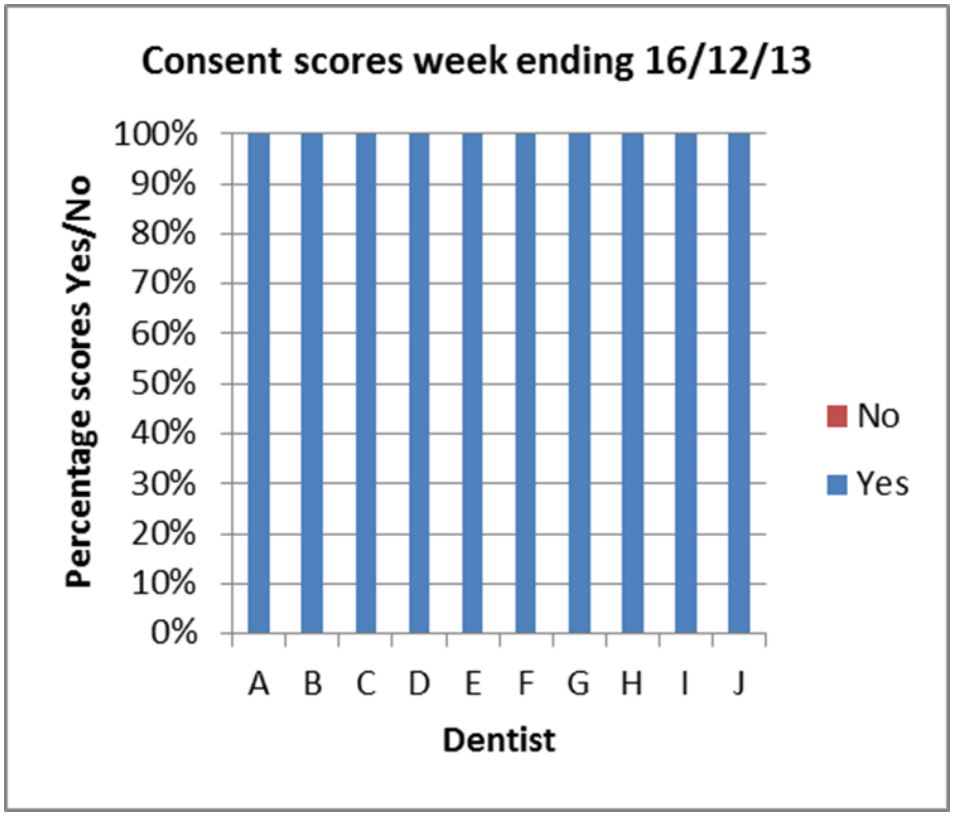
Dentist
No
Yes

Consent domains: Date recorded

Consent obtained and recorded

Autoclave cycle recorded correctly

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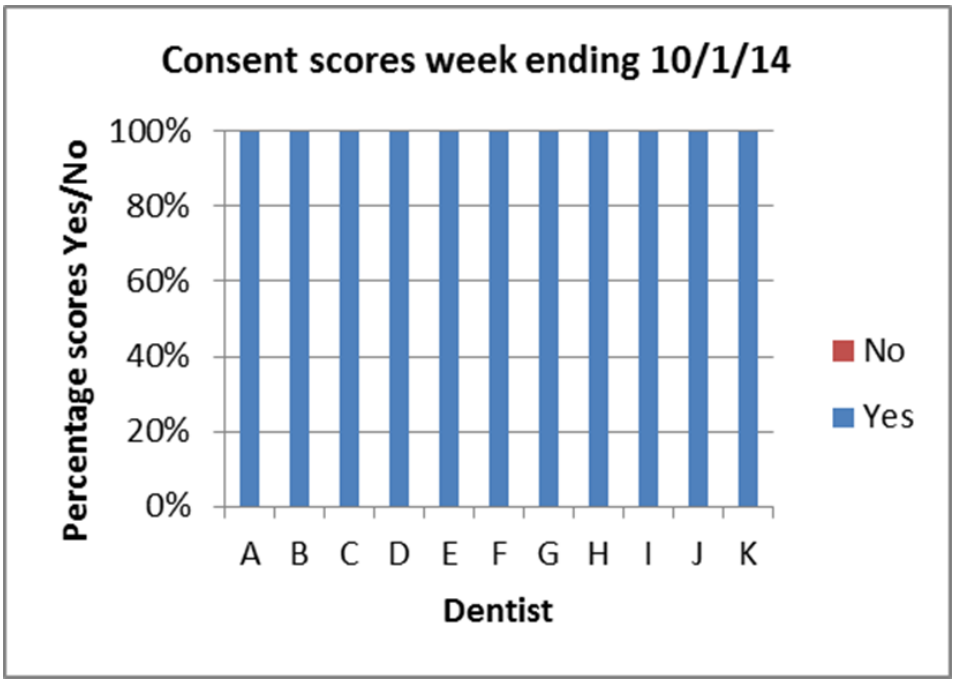
Dentist
No
Yes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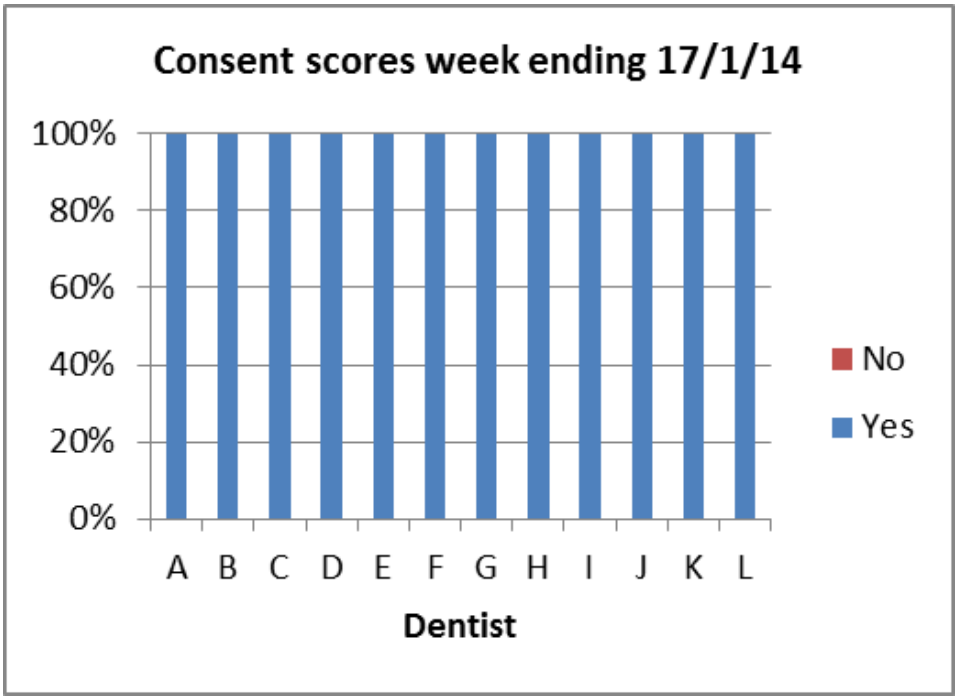
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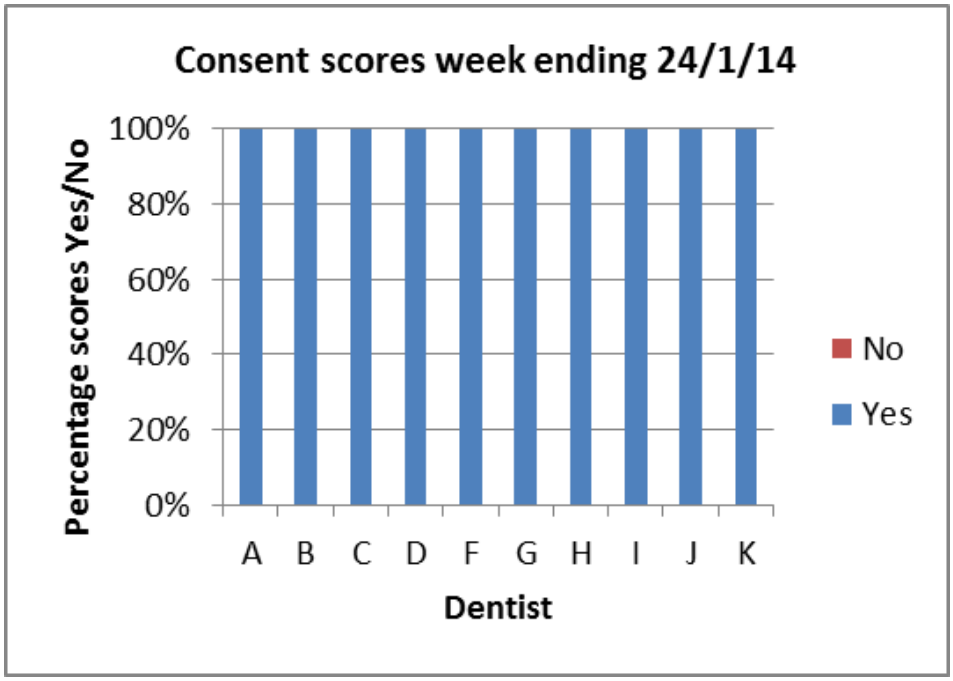
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Dentist
No
Yes

Appendix 8 Emergency Record Keeping Questionnaire

EMERGENCY RECORD KEEPING QUESTIONNAIRE

As part of the emergency patient programme, I am asking all the dentists to complete this short survey. All the answers will be confidential and not disclosed to any other member of staff. I would appreciate constructive comments as they will be used to improve the protocol and prompt cards.

1. How often do you use the prompt cards?
   - ¶ Every day that I work
   - ¶ Once a week
   - ¶ Less than once a week/ occasionally
   - ¶ Never

If the answer is never, please give reasons_____

---

2. Which prompt card do you find most useful (please circle)?
   - ¶ Pain
   - ¶ Swelling
   - ¶ Trauma
   - ¶ Concerns

Reasons why_____

---

3. Which prompt card do you find least useful (please circle)?
   - ¶ Pain
   - ¶ Swelling
   - ¶ Trauma
   - ¶ Concerns

Reasons why_____

---

4. Regarding the physical properties of the cards, how do you find the:

	Superior (5)	Excellent (4)	Good (3)	Fair (2)	Poor (1)
Layout					
Font					
Size					
Ease of use					

Comments and suggestions_____

_____

5. Considering the Pain prompt card only:

The Pain prompt card had the right amount of information (please circle).

- ¶ Strongly agree (5)
- ¶ Agree (4)
- ¶ Neutral (3)
- ¶ Disagree (2)
- ¶ Disagree strongly (1)

Is there any information you would leave out?_____

Is there any information you would include or change?_____

Considering the Swelling prompt card only:

The Swelling prompt card had the right amount of information (please circle).

- ¶ Strongly agree (5)
- ¶ Agree (4)
- ¶ Neutral (3)
- ¶ Disagree (2)
- ¶ Disagree strongly (1)

Is there any information you would leave out?_____

_____

Is there any information you would include or change?_____

_____

Considering the Trauma prompt card only:

The Trauma prompt card had the right amount of information (please circle).

- ¶ Strongly agree (5)
- ¶ Agree (4)
- ¶ Neutral (3)
- ¶ Disagree (2)
- ¶ Disagree strongly (1)

Is there any information you would leave out?_____

_____

Is there any information you would include or change?_____

_____

Considering the Concerns prompt card only:

The Concerns prompt card had the right amount of information (please circle).

- ¶ Strongly agree (5)
- ¶ Agree (4)
- ¶ Neutral (3)
- ¶ Disagree (2)
- ¶ Disagree strongly (1)

Is there any information you would leave out?_____

Is there any information you would include or change?_____

---

6. The topics in the prompt cards are relevant to the emergency patient (please circle).

    - ¶ Strongly agree (5)
    - ¶ Agree (4)
    - ¶ Neutral (3)
    - ¶ Disagree (2)
    - ¶ Disagree strongly (1)

7. Are there any other training issues you would feel necessary?_____

_____

Thank you for your time