Summary of: A pilot improvement project in hospital-based oral healthcare: improving caries risk assessment documentation

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FULL PAPER DETAILS

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Objective To evaluate the impact of a continuous improvement project to improve completion of a caries risk assessment (CRA) and to assess its impact on delivery of dental caries prevention. **Design** Single centre clinical improvement project. **Setting** A paediatric dental department within a UK dental hospital over the course of 2008–2009. **Subjects (materials) and methods** Continuous monitoring of documentation of a CRA was instigated and results fed back to clinicians. Tools were developed to structure the process of CRA. After six months of intervention, a comparison of preventive care to a pre-intervention sample was undertaken. **Main outcome measures** The main outcome measure was completion of a CRA. Comparison was also made with pre-intervention data on levels of preventive care received. **Results** Over the 12 month project the mean rate of CRA completion improved from 30% over the first 6 months to 73% in the second 6 months. Compared to the pre-intervention sample, all items of the caries prevention package had improved, with delivery of toothpaste strength advice (16% vs 60%, $p = 0.001$) and diet advice (32% vs 70%, $p = 0.004$) improving significantly. **Conclusion** By targeting and improving CRA completion the quality of preventive care delivered has also significantly improved.

EDITOR'S SUMMARY

We are all guilty in terms of a variety of activities of becoming complacent and of falling into bad habits. This can certainly be true of routine procedures in the clinical setting and whereas for each patient the treatment or preventive intervention is unique in a given appointment or session, to the practitioner it may be one of several or many in that same time period leading to a lack of focus.

Careful recording is not only a guard against this but also acts as a checklist to ensure complete compliance with the determined treatment course as well as a dento-legal reference. In this study the impetus arose instead from a departmental clinical governance exercise which served to highlight gaps in the delivery of caries risk assessment and prevention. As in any audit cycle the need to include the re-assessment after action has been taken helps indicate

where progress has been made, or not, and in this case the authors applied this technique over a twelve-month period to assess developments. In the event, considerable improvements were made especially in relation to the preventive activities of toothpaste strength advice and dietary counselling.

Although this work is reported in association with a dental hospital paediatric dentistry department the principles are applicable to any clinical setting or patient procedure and provide a valuable tool for measuring outcome as well as recording process. Ironically, the use of such techniques then also becomes habit, albeit a good habit. Once into a frame of mind that acknowledges this as beneficial the desire increases to seek other measures in other areas of activity, generally raising awareness and standards.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under

'Research' in the table of contents for Volume 212 issue 2.

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IN BRIEF

- A direct clinical example of translation of evidence into practice using contemporary improvement methodologies.
- By regular monitoring and feedback on performance, barriers to improvement can be identified and addressed.
- Targeting documentation of a caries risk assessment delivered subsequent improvement in documentation of delivery of caries prevention interventions.

COMMENTARY

Quality improvement in healthcare is a central part of modern health service delivery. Over the past decade, the focus of quality improvement has been in acute hospital settings.^{1,2} Healthcare professionals are expected to deliver high quality and evidenced-based care at all times. This is unfortunately not the usual practice. Although institutions have clear guidelines and clinical protocols aimed at delivering the best care available, the implementation of evidence-based guidelines is not guaranteed.³ Systems need to be developed to ensure that they are followed at all times and adapted to the needs of the patient. The recognition that patients do not always receive the healthcare they should expect is often difficult for clinicians and patients to accept and understand.

Clinical governance introduced the concepts of clinical audit as a way of measuring how systems perform against best practice. Keightley *et al.* demonstrate that one needs to add improvement methodology as the next step to audit, in order to ensure that necessary changes are introduced and sustained. The key introduction of the concept of 'small tests of change' and the use of the improvement methodology introduced in industry by Shewhart and Deming,⁴ among others, demonstrates the need for us to think differently. The aim is the attainment of reliability in the system – the patient receives the appropriate care the first time, every time – no matter who is delivering the care.

One might argue that this could mean a loss of professional freedom to treat patients. Rather, it enables professionals to treat in a way that results in the best outcome for the patient all the time. This paper is a clear demonstration of how improvement methodology can be implemented in dental practice. It issues a challenge to the dental profession to re-examine the way care is delivered, and to constantly work on ways to improve the delivery of care. This can be in terms of access, patient centredness or safety. Traditional methodologies do not work and we need to learn from other industries, in order to ensure that clinical outcomes are the best for patients.

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1. Online information at <http://www.ihl.org>
2. Online information at <http://www.patientsafety-alliance.scot.nhs.uk/programme>
3. Cabana M D, Rand C S, Powe N R *et al.* Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA* 1999; **282**: 1458–1465.
4. Deming W D. *The new economics: for industry, government, education*. Cambridge: MIT Press, 2000.

AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

The inspiration for this work came from a departmental clinical governance day looking at compliance with SIGN guidance in relation to caries risk assessment and prevention. As the regional referral centre for paediatric dentistry, and an undergraduate teaching centre, we should be providing the highest possible care in this area. Unfortunately, a departmental audit found that there was significant need for improvement in our documentation of both caries risk assessment and prevention interventions. Whilst it was felt that many of these were done routinely, because it was not documented it could not medico-legally be said to be done. Therefore, an improvement project was initiated, using this as an opportunity to utilise contemporary improvement methodologies in other healthcare fields.

2. What would you like to do next in this area to follow on from this work?

This pilot project, now developed into an on-going project, has run for over two years within the department. Monitoring performance on a continual basis and using run charts, has been useful in identifying unexpected impediments. We have recognised that achieving improvement consistently and reliability is challenging, and requires organisational level support. To achieve our goal of providing all children with the best quality preventive care, we aim to spread the ethos of continually improving performance using these methodologies into other settings.