Introducing care pathway commissioning to primary dental care: the concept

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IN BRIEF

- Puts care pathways in dental care into a wider healthcare context.
- Describes a new commissioning model for general dental practice based on a needs and risk assessment linked to care pathways for preventive care.
- Outlines potential benefits and drawbacks of a care pathway approach.

GENERAL

Care pathways are defined as 'a methodology for the mutual decision making and organisation of care for a well-defined group of patients during a well-defined period'. Although most often used in Europe as a tool to improve the quality of care and to aid the continuity of care between disciplines and settings, care pathways also have an application in underpinning the commissioning process. This paper describes the development of a new model of commissioning for general dental practice services based on a need and risk assessment linked to specified care pathways for preventive care. In this system dentists are monitored on adherence to care protocols based on nationally accepted guidelines for preventive care interventions as well as recommended recall intervals for routine dental examinations. A traffic light system to distinguish between patients with different levels of need and risk of disease is being used.

INTRODUCTION

In the UK the use of 'care pathways' as a commissioning tool is becoming fashionable. In the same way as the Modernisation Agency adopted 'process mapping' derived from the principles of Business Process Re-engineering used in industry,[1] and applied this to the health sector, leading to widespread use of the technique in the NHS to manage finite resources,[2] 'care pathways' while a seemingly new approach, is actually a well established methodology which is now being widely applied to manage resources within the NHS. Within primary dental care, attention has recently been drawn to the approach with one of the key recommendations of the Independent Review of NHS dental services in England being that 'NHS primary care dentistry provision should be commissioned and delivered through a staged pathway through care'.[3] This paper describes some of the background behind the application of care pathways to health service management, and outlines a pilot scheme being run in dental practices where care pathways are being used as a commissioning tool.

Since the separation of strategic planning from service provision in the late 1980s, the role of purchasers (now commissioners) of health care in the NHS has grown in importance.[4] The political context has often determined the terminology, as much as the aims of this role, with commissioners currently having a broad remit which includes procuring services, influencing providers and monitoring performance.[5] The task of commissioning is so large that it is often divided into manageable components. Two ways of doing this has been a division by geographical locality or by 'programme' (for example, by specialty).[4] A 'programmes' approach incorporates commissioning based on a condition or care group, and is intended to be a logical approach to the use of evidence of clinical effectiveness, leading to the development of clinical outcomes and integration of clinical audit into commissioning. 'Care pathways' sit within the 'programmes' approach to commissioning, which has become increasingly important in recent years.

Originally a concept from industry, care pathways were first adapted for use in healthcare in the USA as a response to the escalating costs of healthcare in the late 1980s. There hospitals receive a negotiated fee for each patient dependent solely on diagnosis, regardless of the service used or the length of stay. Pathways were introduced as a means of trying to ensure that patients would receive a standard package of care for a given diagnosis, and that their length of stay would be pre-defined.[6] Although care pathways were first developed to control costs as part of the 'managed care' paradigm, in other countries they have been developed mainly to achieve improvements in quality of care.[7] In the UK, the emphasis has been on using care pathways as a tool to achieve continuity of care across care setting and disciplines, and as a tool to achieve broad aims relating to clinical governance.[8] At present in Europe, care pathways are used mainly in acute hospital trusts, predominantly as a multi-disciplinary tool to improve the quality and efficiency of care.[9] In the UK the top three conditions managed by care pathways are: chronic obstructive pulmonary disease, diabetes and stroke.[10]

Care pathways are defined as 'a methodology for the mutual decision making and organisation of care for a well-defined group of patients during a well-defined period'.[11] Thus care pathways are more readily applied to acute conditions, although care pathways can also be used for chronic

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conditions, such as mental illness. Care pathway interventions are grouped into typical elements such as assessment, medication, discharge planning and activity programmes.[12] The ideal is for 75% of all patients within a defined diagnostic group to meet the expected recovery path within the care pathway.[13] Agreed outcomes are set, such as a timely length of stay, and retrospectively a case manager collects variance data from the care pathway to establish why some patients fail to reach agreed outcomes.[14] All care pathways therefore are composed of four main elements: a timeline, an intervention, an outcome and a variance record.[15]

Over recent years, the use of care pathways has spread out of acute care into other areas, and has been adapted to represent a patient journey through the health system. The idea of process mapping has become popular, describing a patient's journey through a healthcare system for a particular condition. Electronic care pathways are a newer form of process decision-making that is supported by specialist computer software. Nationally available tools such as 'Map of Medicine' have been produced which provide a visualisation of the ideal, evidence-based patient journey for nearly 400 conditions (http://www.mapofmedicine.com). These include guidelines for the management of patients with a dental abscess, although there are currently no other documented care pathways for other dental conditions.

Although care pathways have a primary purpose of supporting clinical processes, they are multi-faceted tools, which can also be used for other purposes such as monitoring activity undertaken, and commissioning services.[16] Thus teams of commissioners and clinicians are reported to have developed and used localised care pathways to underpin commissioning of services.[17] However, when reports of such projects[17] are compared with the defining characteristics of care pathways, although some features of the classic care pathway process are used (an explicit statement of the goals and key elements of care based on evidence/best practice), other aspects such as the documentation, monitoring, and evaluation of variances and outcomes, are less apparent.[11] It is therefore debatable whether the current move towards using care pathways as a commissioning tool in the NHS is a departure from the classic process of care pathway implementation. It appears that commissioners have taken some, but not all aspects of the methodology in order to use care pathways as a commissioning tool. Nevertheless, terminology relating to 'care pathway' implementation is now used frequently in reports of NHS commissioning 'successes'. For example: model pathways for glaucoma, cataracts and low vision (with national care pathway templates and core national dataset) are key features of the Department of Health guide to Commissioning Community Eye Care Services.[18]

CARE PATHWAYS OR CARE PROTOCOLS?

It is possible that some of the confusion which exists may be explained by a misuse of terminology, with the term 'care pathway' currently being loosely used as a generic term to cover a number of different applications.[16] However, this approach fails to recognise that 'care pathways' as a specific concept have been studied for many years, where the term 'care pathway' denotes a distinctive type of clinical guideline, which specifies each step in the care process, rather than stating broad principles that practitioners should follow.[19] Care pathways, in the true form, map out two trajectories: the sequencing and timing of practitioners' care and the 'journey' that patients will experience. The situation is further complicated by the fact that even within care pathway literature, a number of interchangeable terms are used to describe the same thing: including 'integrated care pathways', 'clinical care pathways', 'critical path' and 'critical pathways'.

The term 'care protocol' is however distinct from 'care pathways' in that they are a form of action plan which translates national clinical guidelines into an embodied action plan for practitioners.[20] Rather than being just 'based on evidence', protocols graft evidence onto practice, and the care process. While care pathways are detailed in terms of the tasks and timelines concerned with interventions, care protocols are not specific in these areas. Care protocols do however differ in an important aspect to clinical guidelines. Whereas a guideline is defined as a principle guiding or directing action, a protocol is defined as a rule relating to a procedure (Oxford Dictionary, 1996). This suggests that a protocol dictates actions which must be adhered to, whereas guidelines offer less rigid advice.[21] Care protocols thus have the potential to be less flexible to individual need and to give less scope for professionals to use their professional judgment than clinical guidelines.

Despite the growing popularity and use of care pathways, confusion over terminology is something which has created difficulties for years. Hale,[22] in 1998, observed that care pathways were under-conceptualised and that they were being implemented with very little understanding of what exactly was being implemented. The same still appears to be true today. This creates problems, particularly when evaluating the effectiveness of the intervention. Many thousands of research papers have been published concerned with the area of care pathway implementation,[20] but it has been argued that many of the multitude of benefits ascribed to care pathways is partly due to a lack of conceptual clarity surrounding the term, what it is and what it does.[22] However, although strictly speaking the intervention outlined in this paper is more akin to a care protocol than a care pathway, we will refer to the intervention as a 'care pathway' because this is the more widely used term nationally at the current time.

CARE PATHWAY COMMISSIONING IN PRIMARY DENTAL CARE

The potential use of care pathways to commission primary dental care was first put forward in 2002 in the Department of Health document *Options for change*.[23] It was suggested at that time that there was a need to disengage the provision of treatment from the fee-per-item remuneration system in general dental practice. It was recommended that private treatment should be defined by reference to what falls outside the NHS care pathway (for example cosmetic, optional items), and an 'NHS dentist' would be a dentist who had contracted to provide a defined range of services to an agreed population within clinical protocols defined as 'care pathways'.

More recently, with the publication of an independent review of NHS dental services in England,[3] a report commissioned in response to identified problems associated

with the implementation of a new dental contract for general dental practitioners in 2006;[24] the use of care pathways in primary dental care has been suggested an important part of new contractual arrangements. The development of clinical guidelines to minimise variation in quality of care was recommended, which would also allow for 'determination of thresholds for treatment'. These 'pathways' were to inform quality measures, with progression through the pathway and a visible reduction of risk, key performance indicators (KPIs) for NHS dental providers.

Within the review, a dental service commissioned in Oldham and Salford was cited as an example of a dental contract for practitioners incorporating adherence to agreed patient pathways, measured by KPIs. This paper outlines the design of this new type of contractual arrangement, with subsequent papers reporting stakeholders' views and early findings.

METHODS AND SETTING

Three dental practices were chosen to implement and pilot the new system. The first was a new dental practice situated in a socio-economically deprived area of Oldham. Oldham Primary Care Trust (PCT) tendered for a provider to work with the PCT to develop and test a new model of primary dental care delivery, in June 2006. The practice opened in November 2007 and comprises of two dental surgeries and a reception area within wider primary health care facilities. The health centre is situated in an area which has an IMD (Index of Multiple Deprivation) score of 56.44. The area (super output area, or SOA) is ranked 1,325 out of 32,482 SOAs in England,[25] which puts it within the 5% most deprived areas in England. The area is also high in the proportion of ethnic minority groups. In Oldham itself, there is a significant, and growing ethnic minority population, with figures from the 2001 census indicating that the proportion of the population in Oldham which is Asian (ie Indian, Pakistani or Bangladeshi) is almost three times that for England (11.9% versus 4.6 %).[26]

The essence of the new model of care outlined by the PCT was that all patients would have an individual assessment of disease risk and oral health need, which would feed into recommended preventive care regimes as outlined in a document published by the Department of Health which summarised the evidence for various preventive approaches such as fluoride varnish and prescription of high fluoride toothpastes.[27] This assessment would be built into the 'check-up' regime for all patients new to the practice, and for all existing patients visiting the practice for a dental recall. Against a background of providing care for a population with high dental needs in a low socio-economic area, PCT strategy identified ensuring that key preventive messages and actions were delivered in dental practices as an important priority. The incentives to deliver preventive care in dental practices under the general dental practice contract implemented in 2006 were generally viewed as being weak;[24] and so a new system of commissioning was viewed as necessary in order to re-orientate general dental services towards preventive care, from being previously primarily focused on providing a treatment service. It was also the commissioners' intention that the new system would provide service providers with greater incentives to service providers to employ a range performers other than dentists (dental nurses with additional skills, hygienists, therapists) within dental practices.

Adherence to the preventive care pathways were recognised in the contracting arrangements between the dental practice and the PCT. Whereas for other dental practices in the area, reimbursement of practitioners was on the basis of a contractual agreement of monthly block payments on the achievement of activity targets (Units of Dental Activity [UDAs]); for this new practice only 60% of the total contract value had UDAs assigned. It was intended that the remainder of the contract value would be granted on achievement of KPIs based on evidence of delivery of preventive care according to agreed pathways. The PCT commissioners wanted to test the usefulness of these KPIs (various process and outcome measures) as a possible alternative or supplement to UDA targets as performance monitoring tools. An alternative to a system purely based on UDA targets was felt necessary because of existence of perverse incentives within these contracts.[3] The reduced emphasis on UDA targets in the contractual agreement between the commissioner and dentists also recognised that there needed to be time invested in developing and testing a new system; as well as a potentially greater investment of dental practice resources being needed to provide care in a different way.

The other two practices involved in the scheme were established practices within the Salford PCT area. They were chosen pragmatically because of their willingness to participate in innovative work. Both practices had been established in the area for many years. One was a large practice situated in an even poorer area than the practice in Oldham, with an IMD score of 68.43 and a SOA rank of 352. The other practice was in a slightly better-off area of Salford, although still situated in a relatively disadvantaged area when compared with the country as a whole, having an IMD score of 30.04 and a SOA rank of 8115, out of the 32,482 SOAs in England. In these established practices, it was more difficult to build flexibility in contracting arrangements with the PCT, and after discussion a tolerance of 20% on the existing UDA target was agreed, usually only 4%.

A steering group was established in 2005, with a wide membership, which included principal practitioners as well as other staff from the practice, such as practice managers, dental nurses with additional skills and dental therapists. Workshops were held regularly to develop and refine the care protocols, identify key performance indicators (KPIs), review KPIs and gather informal feedback. Ethical approval and NHS Research and Development approval from Oldham and Salford PCTs were obtained in order to carry out a multi-method evaluation of the new system.

DESCRIPTION OF THE MODEL

Need/risk assessment and designation to care pathway

Under the new system, every patient assessment was to include three sets of information (medical history, social history eg previous history of disease, diet, oral hygiene habits; and clinical examination) and the patient then assigned to one of three diagnostic groups using a traffic-light coding system. Patients were to be categorised as having high (red), moderate (amber) or low (green) risk or level of

oral disease. Once assigned to a diagnostic group, patients' preventive treatment plans would be governed by the guidelines relevant for that age-group as set out in *Delivering better oral health*[27] and the NICE guidelines for recall for dental examination.[28]

Figure 1 illustrates the three types of diagnostic groups of patients as circles (high, moderate and low risk of disease). New patients generally fall into two groups: those attending for symptomatic care and thus wanting to receive a dental examination; and regular care. New patients attending for symptomatic care would enter a 'fast track' process for pain relief, without receiving a full oral health assessment with allocation to a risk group, although they would be invited to return for a full assessment. Of those attending for an examination and regular care, after allocation to a risk group, their care would follow a one to two year care pathway according to the protocol (there would be a number of courses of treatment and reviews in each care pathway). 'Red' patients would have all three components of their risk re-assessed after one year, and 'Amber' and 'Green' patients would be re-assessed after one or two years (depending on whether they were a child or an adult). Table 1 illustrates how the three sets of information gathered on assessment (medical history, social history, clinical examination) are used to determine the allocation of the patient to one of the three risk/disease groups ('Red', 'Amber' and 'Green').

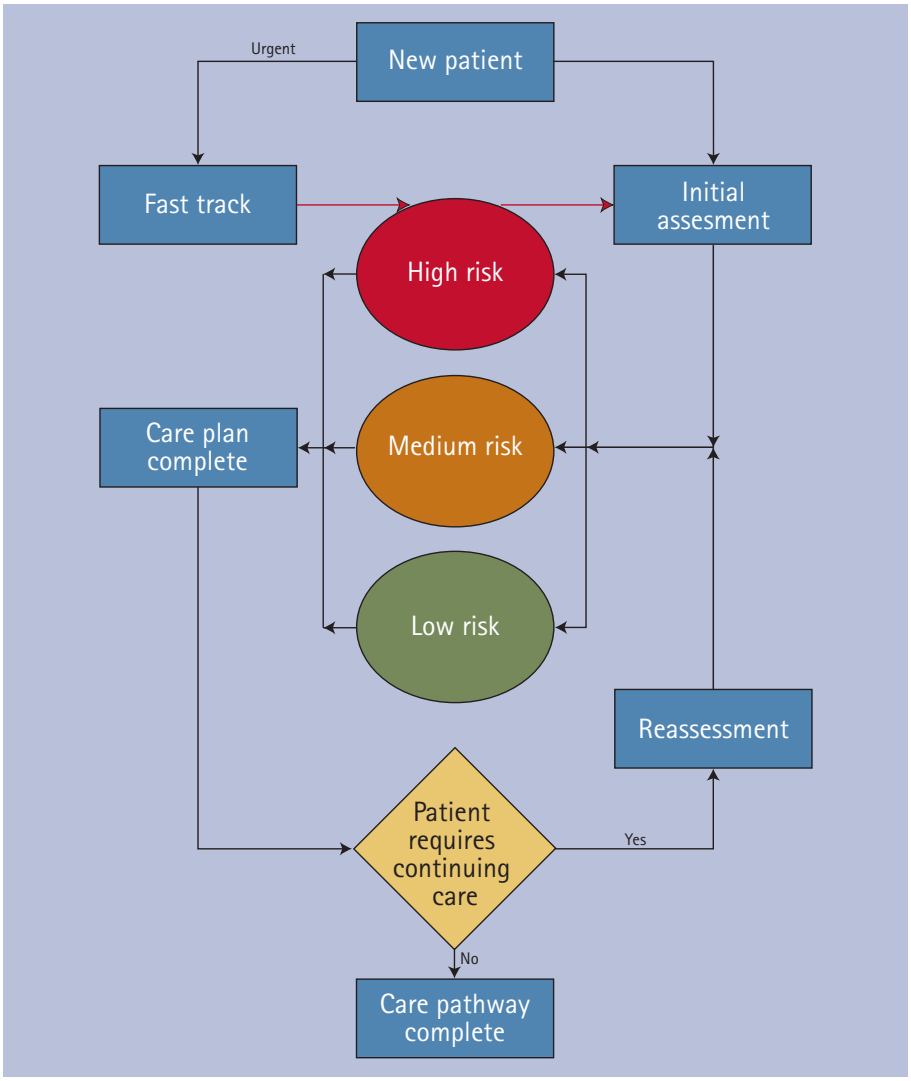

Fig. 1 Diagrammatic representation of the allocation of patients to one of three risk groups

Table 1 Basis of allocation of patients to 'Green' 'Amber' and 'Red' need/risk groups

Diagnostic group	Allocation based on:	Examples
Green	No relevant medical or social history and no history of oral disease or recent active disease if previous treatment	No active decay Regular attendance Patient maintains oral health No significant risks identified
Amber	An issue highlighted in the medical and/or social history which places them at higher risk of disease but who have had minimal active decay or periodontal problems; or signs of limited oral disease without a history of disease	Active decay in one tooth Soft tissue lesion requiring review Risk identified such as being a regular smoker or drinker; taking sucrose-based medicine; frequent sugar intakes such as at bedtime. Moderate BPE (score of 2 or more in 2 sextants)
Red	A significant issue which raises their risk for disease highlighted in the medical and/or social history, or those with disease which is active and not under control	Soft tissue lesion requiring active treatment and referral Blood clotting disorder; learning disability Active decay in more than one tooth Severe BPE (Score of 2 or more in 3 or more sextants)

Care protocols

Care protocols used for each diagnostic group define the number and type of preventive intervention as well as recall periods for 'check-up' examinations. Tables 2 and 3 outline the preventive interventions stipulated in the care protocol. The care protocol also specifies that the recall period for check-up appointments for children should be three monthly (Red patients), six monthly (Amber patients) and 12 monthly (Green patients). For adults the recall periods were defined as six monthly (Red patients), 12 monthly (Amber patients), and two years (Green patients). The care protocol also includes a specification that for patients in the 'Red' category only limited restorative work would be undertaken until active disease was stabilised. Any treatment for these patients was to be focused on stabilising active caries or periodontal disease. Conversely, adult patients in the 'Green' or 'Amber' category would be eligible to have any NHS treatment was deemed clinically necessary (eg crowns).

Review and refinement of the system

The process of implementation of care pathways is a dynamic one (Fig. 2). Although recommended care processes are defined in the protocol with reference to literature, and where there is no literature to support a recommendation, the content of the care protocol is defined by 'best practice' after discussion among those involved in the procedure;[29] it is possible that the pathway will be amended after collection of data on outcomes. This outcome data may include patient satisfaction data, and financial impacts as well as clinical outcome data. Outcome data may therefore contradict the wisdom of some of the processes recommended in the protocol, and the protocol needs to be adapted accordingly.[29]

As the first trial of the use of care pathways in primary dental care, it must be emphasised that this process of refinement is still underway. For example: practitioners trialling the system have suggested that the care protocols be made more detailed, which moves the model closer to format of classic care pathways. Care pathways are usually based around a group of similar types of patients, with a similar condition. They are usually used for high volume predictable cases.[29] Hence more specific care pathways are now being developed for major groups of patients seen in dental practice eg 'Red caries children', 'Amber caries children', 'Green caries children', 'Red periodontal disease adults' etc. Figure 3 shows how the care process for one of these groups is being outlined. In time, as the evidence-base improves in these areas, and outcome data is gathered, there will be further modifications. Timelines may then be grafted onto the processes, and as outcome measures are refined, variance reporting may be possible, bringing the work in line with more conventional care pathway methodology.

Table 3 Preventive Care Protocols for adults

AGE (years)	NEED/RISK CATEGORY		
	'Green' Patients	'Amber' Patients	'Red' Patients
18-54	Advice Take history of tobacco use Demonstrate methods to improve plaque control Investigate diet	Fluoride varnish twice/year Alcohol consumption referral Male: 21+ units Female: 14+ units Smoking cessation intervention No active caries or perio in the last 2 years	Fluoride varnish twice/year Pain control treatment Prescribe fluoride mouthrinse Prescribe 2800/5000 ppm toothpaste* Prescribe chlorhexidine mouthrinse Risk factors predisposing dry mouth – consider supplements
55+	Advice Take history of tobacco use Demonstrate methods to improve plaque control Investigate diet	Fluoride varnish twice/year Alcohol consumption referral (Male: 21+ units Female: 14+ units) Smoking cessation intervention Risk factors predisposing dry mouth – consider supplements	Fluoride varnish twice/year Pain control treatment Prescribe fluoride mouthrinse Prescribe 2800/5000 ppm toothpaste* Prescribe chlorhexidine mouthrinse Dry Mouth supplements prescribed
Edentulous	Recall 2 yearly Advice	Recall 12 months Advice	Recall 6 months Possible referral for pre-cancerous lesions

Table 2 Preventive Care Protocols for children

AGE (years)	NEED/RISK CATEGORY			
	'Green' Patients		'Amber' Patients	'Red' Patients
16-18	Advice	Fluoride Varnish twice/year	Consider prescription 5000 ppm toothpaste* Prescribe daily fluoride rinse* F/Varnish x 3-4 Fissure Seal	Consider prescription 5000 ppm toothpaste* Prescribe daily fluoride rinse* F/Varnish x 3-4 Fissure Seal
10-15	Advice	Fluoride varnish twice/year	Prescribe 2800ppm toothpaste* Prescribe daily fluoride rinse* Fluoride varnish 3-4 times /year Fissure Seal	Prescribe 2800ppm toothpaste* Prescribe daily fluoride rinse* Fluoride varnish 3-4 times /year Fissure Seal
8+	Advice	Fluoride varnish twice/year	Prescribe daily fluoride rinse* Fluoride varnish 3-4 times/year Fissure Seal	Prescribe daily fluoride rinse* Fluoride varnish 3-4 times/year Fissure Seal
7+	Advice	Fluoride varnish twice/year	Fluoride varnish 3-4 times/year Fissure Seal	Fluoride varnish 3-4 times /year Fissure Seal
3-6	Advice	Fluoride varnish twice/year	Fluoride varnish 3-4 times/year Fluoride Supplement	Fluoride varnish 3-4 times/year Fluoride Supplement
0-3	Advice		Advice	Advice

*For those with active caries

Benefits and drawbacks of the approach

Arrangements for implementation of changes to English general dental practice contracts as recommended by Steele[3] are now at an advanced stage of planning. Changes are due to be piloted in two phases, the first phase involving practices following the care pathway approach first developed in Oldham and Salford, as outlined in this paper. It will be some time until findings from these pilots are in the public domain; however, within the literature on care pathways, some strengths and weaknesses of the general approach are already recognised, and this may usefully inform evaluation and identify issues which need to be addressed in a wider implementation of Steele recommendations.

Benefits of implementing care pathways are said to be substantial and wide-ranging. Studies showing reductions in hospital stays by over 25%[30] and cost reductions of as much as 34%[31] are not uncommon. However, the weight given to these findings must take into account that much of the evidence on the effectiveness of this approach is based on case reports or before and after studies. Relatively few

controlled trials have been undertaken. When the evidence is examined more fully, benefits appear to be more equivocal. For example: a Cochrane systematic review which included three randomised and 12 non-randomised studies of patient management with stroke pathways found no significant benefit relating to functional outcome, and patient satisfaction, and that quality of life might actually be worse. On the other hand, care pathways were associated with a higher proportion of patients receiving investigations and a lower risk of developing certain complications such as infections and readmissions.[32]

This illustrates nicely the complexity of the various outcome measures which must be used to monitor care pathway use. Process and even clinical outcome measures only give part of the picture. It is necessary also to collect data on patient satisfaction and resource use, although unfortunately the cost, quality and satisfaction vectors may not point neatly in the same direction.[33] So even if valid data on a range of clinical outcomes, resource use and patient satisfaction were gathered, the effectiveness of care pathways in 'improving care' may remain a value judgement. What values are placed on these different outcomes is an issue which must be addressed by both clinicians and policy makers. Identifying, collecting, analysing and interpreting data on appropriate outcome indicators for primary dental care pathways will be one of the challenges in taking this approach.

Discussions relating to the relative merits of outcome measures may highlight a difference in stakeholder perspective which may be hard to resolve. Care pathways were originally developed within the context of instituting clinical governance in health care organisations. Clinical governance was originally conceived as being local both in its orientation and operation, with a 'bottom-up' mechanism intended to inspire and enthuse within a no-blame learning environment.[34] However, government pre-occupation with delivery and 'top-down' performance management is suggested to have undermined its developmental potential.[34] The focus of the use of care pathways in primary dental care to provide contract currencies for a revised dental contract may be perceived by some dental practitioners to epitomise the 'top down' approach. Will such a 'top down' approach mean that clinicians are less likely on a local basis to engage in conversations at the local (practice) level that are focused on the detailed composition of care for specific conditions? Will this therefore compromise one of the intended consequences of using care pathways, which is the constant monitoring and incremental improvement of quality of care?

A further challenge in implementing care pathways in primary dental care concerns the type of care delivered. Care pathways were originally developed for high volume, high-cost diagnoses and procedures particularly where inefficient variation in the process of care was thought to exist: surgical procedures such as total hip replacement are a prime example - where the care process itself differs little from patient to patient. However, where there is greater heterogeneity among patients and their problems, care is more difficult to translate into care pathways. Some institutions report that pathways fail when patients either have multiple problems and therefore multiple relevant pathways, or a problem that does not fit neatly into any standardised pathway.[33] Dental patients in primary care are likely to have more than one condition which will increase the complexity of using care pathways. Furthermore, even for one condition (eg dental caries), the trajectory of

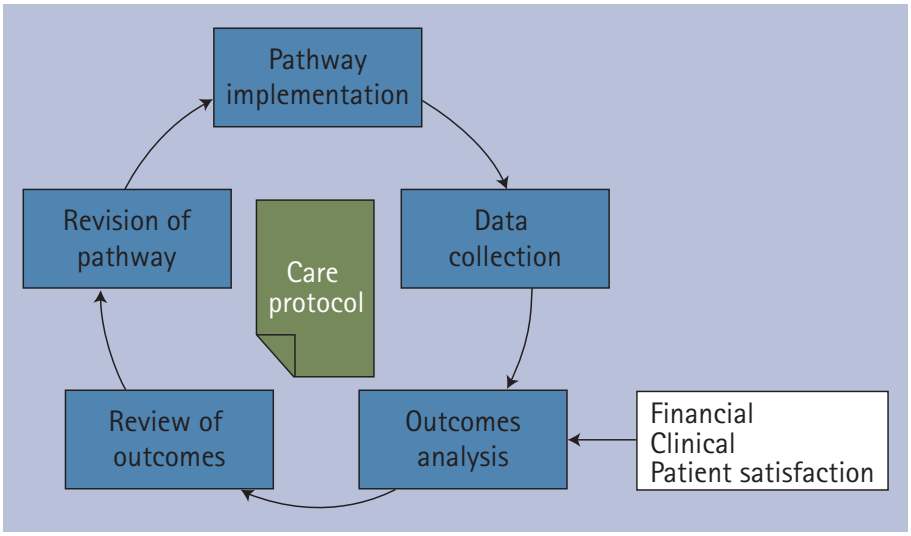

Fig. 2 Refinement of care pathways (Moss and Brown, 1998)

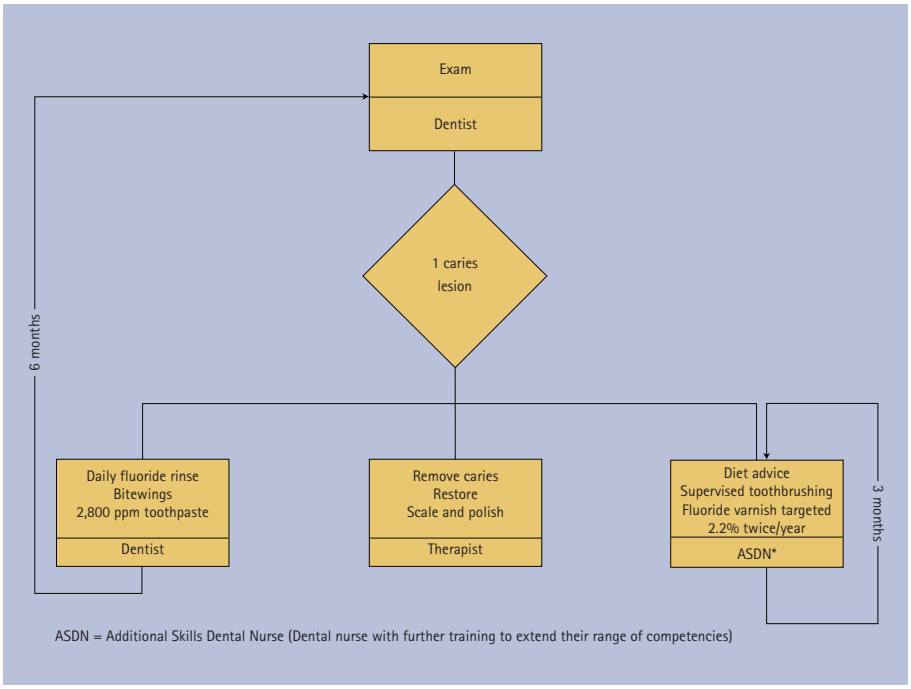

Fig. 3 Adult Amber caries

the disease and approaches taken in agreeing treatment plans with the patient, will be influenced by the age and the social background of the patient. Care pathways in primary dental care will need to take account of this heterogeneity.

A common response from clinicians to care pathways is that their clinical practice takes into account the heterogeneity of medical conditions with practice guided by years of experience, whereas using care pathways reduces their work to 'cookbook medicine'.[33] In other words care pathways bring in such a standardisation of care that this effectively limits their professional autonomy. Finding a proper balance between autonomy and standardisation may be an issue, but not one that is impossible to resolve. Care pathways are not intended to be immutable documents setting out treatment regimes.[34] Some have likened care pathway documents to the 'musical score' which the clinicians use to guide their practice. Variation remains an expected feature of clinical practice, and important learning can derive from clinical variation. Where variation occurs, the variation should be documented as part of the care pathway process. The documentation of variances can become part of structured conversations between clinicians in the practice as well as between clinicians and managers. The danger of using outcomes derived from care pathways as a contract currency in primary dental care is that this sort of debate may be stifled, resulting in the care pathway approach used being less of the dynamic process that it should be.

Finally, a further possible benefit of instigating a care pathway approach is that, because standardised stages of care are identified, this means that the patient may be better informed of what to expect as their care progresses, with the potential of increasing patient satisfaction as a result. Some attention has been paid to monitoring patient satisfaction associated with care pathway implementation,[35] although it could also be argued that the implementation of care pathways is in effect a complex intervention,[36] with many different components. Attributing increased patient satisfaction to care pathway implementation, particularly in studies without adequate controls, may be too simplistic.

During the work on development of new service models, support was received from NHS Oldham, NHS Salford, NHS Primary Care Contracting, the North West Deanery, and VSM Europe. Both commissioners and practitioners worked together in developing and testing the model described, with Ravi Singh, Shazad Saleem, Mohsan Ahmed, Simon Taylor, Lindsey Bowes, Rob Haley, and Gill Barnard all making important contributions.

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