

# **Strategic Vision for eDentistry**

**SCOTTISH GOVERNMENT  
CDO & DENTISTRY DIVISION**

## **Purpose**

1. The purpose of this paper is to set out the Scottish Government's strategic vision for eDentistry in the context of the wider eHealth strategy. The paper considers the work programmes currently in train, to fit them into a proper planning cycle, with prioritisation and a strategic focus on benefits to be accrued. We have identified this as a sensible opportunity to pull these separate programmes together into an overarching, strategic and structured approach.

## **Objectives of the Strategic Vision for eDentistry**

2. The Strategic Vision for eDentistry is defined by a set of specific objectives as follows:

- Manage the increased requirements for information sharing across the NHS, social care and their partners, and adoption of standards for inter-operability to ensure a smooth pathway of care for patients.
- Meet the clinical, governance and business support requirements of primary care dentists, who deliver over 4 million courses of NHS dental treatment in each year.
- Manage the increased demand for timely good quality data and analysis to target health care improvement.
- Meet the increased need for (i) mobile access to clinical information within a home or community-based setting, and (ii) additional self-management tools and information for patients.
- Determine the eDental requirements of secondary care dental services and how they interface with primary care services.
- Support national eHealth strategies.

The overarching purpose of the Strategic Vision is to focus future investment in those priority areas and provide strategic direction.

## **Strategic Context**

3. The Strategic Vision for eDentistry takes cognisance of the Scottish Government's 2020 eHealth vision. By 2020 eHealth in Scotland will:

- Enable information sharing and communications that facilitate integrated health and social care across all settings from the patient's home to the hospital.
- Provide information processing, analysis and intelligence that supports and complements the work of health and social care professionals and improves the safety and quality of care.

- Support people to manage their own health and wellbeing and live longer, healthier lives at home or in a community setting.
- Contribute to a partnership between the Scottish Government, NHS Scotland, the research sector and industry to enable Scotland to be a long term leader in digitally-enabled care.

The provisional timeline for the Strategic Vision is 2020. By this date we expect the completion or near completion of the key programmes as described in this document.

#### *2014-17 eHealth Strategy*

4. A set of seven eHealth Aims are part of the 2014-17 eHealth Strategy. These are a suitable reference for any future programme of eDentistry:

- To enhance the availability of appropriate information for healthcare workers and the tools to use and communicate that information effectively to improve quality.
- To support people to communicate with NHSScotland, manage their own health and wellbeing, and to become more active participants in the care and services they receive.
- To contribute to care integration and to support people with long term conditions.
- To improve the safety of people taking medicines and their effective use.
- To provide clinical and other managers across the health and social care spectrum with the timely management information they need to inform their decisions on service quality, performance and delivery.
- To maximise efficient working practices, minimise wasteful variation, bring about measurable savings and ensure value for money.
- To contribute to innovation occurring through the Health Innovation Partnerships, the research community and suppliers, including the small and medium enterprise (SME) sector.

Through the eHealth Strategy, the Strategic Vision for eDentistry will be able to link into existing and developing strategies and roadmaps on electronic health records, clinical decision support, safer medicines, business intelligence, primary care digital services and other relevant areas.

## Position Report – Present Landscape in eDentistry

5. This section (and table 1) summarises what is currently taking place in eDentistry in Scotland, and some of the key issues/challenges facing its future development.

eHealth Outcomes	Current Developments
Clinical Support	SCI Gateway referral pathways
	Tayside portal pilot
Improvement Support	Quality Improvement & Supporting Practice (QuISP) pilot
	NES Portal
Business efficiency	Update to NHS email
	Modernise ePayments
	Introduce ePrior Approval
	eSchedules
	Maintain connectivity; N3 to SWAN
Patient empowerment	App-based Dental Patient View Questionnaire (DPVQ) in PDS
Information sharing	Emergency Care Summary (ECS) available to PDS and OoH Services
	Prison clinical record sharing scoping exercise
Data to support planning	SAOHS pilot

Table 1: Developments currently underway

## *Clinical Support*

### *Electronic Referrals – SCI Gateway*

6. We have made variable progress with electronic referrals between primary and secondary care in dentistry using SCI Gateway, with some Health Boards achieving a high percentage of electronic referrals while others have made limited progress.

7. SCI Gateway is fully integrated with GP IT systems, enabling GPs to complete referrals with limited manual input. The advantages of SCI Gateway are standardisation of referral and reduced error rates. However, no system suppliers for dentistry have integrated their products with SCI Gateway to date, with dentists referring to secondary care required to manually complete referrals.

### *Dental Information via a Clinical Portal*

8. Under the aegis of clinical support, the eDental Programme Board commissioned NHS Tayside to take forward a pilot of dentist access to a single portal of clinical information (i.e. case notes, referrals, Emergency Care Summary). In dentistry there is no facility for the transfer of dental records between practices in the event that a patient leaves a practice. The need for continuity of dental records is an important contributor to continuity of care, and a portal-type solution would be a means of achieving this objective. In the longer term a clinical portal could include dental correspondence, test results and oral health summaries.

## *Improvement Support*

9. The *Supporting Better Practice* Initiative is currently underway in four NHS Board areas. This will provide a dashboard of information on ten indicators (three at practice level, seven at individual practitioner level) where practices will be able to see their relative scores. This quality or governance tool will be a key determinant of practice and practitioner performance and will allow NHS Boards the opportunity to intervene early, should improvement at practice or practitioner level be required. The eDental Programme Board through NSS has responsibility for the IT specification/layout.

### *Business Efficiency: eDental Payment & Approval Modernisation*

10. The basis of the programme is to modernise treatment authorisation and electronic payments for dentists within NHS Scotland. Approximately 75 per cent of general dental practices, and 85 per cent of claims, currently submit payment claims electronically via EDIFACT technology, commonly known as EDI submissions. The main objectives of this programme are:

- Streamline payment processes, reducing effort, cost and timescales;
- Increase the use of electronic communications, and therefore increase the quality of the data being received;
- Replacement of the existing payment message standard (EDIFACT) due to ageing technology no longer being supported;

- Introduction of an electronic prior approval process;
- For both normal payments, and prior approval claims, develop and introduce an electronic solution (i.e. a web-based solution) that can be used by practices without a dental practice management system (i.e. a practice that relies entirely on paper submissions).

This programme was approved by the eDental Programme Board and is now managed by Practitioner Services Division, through the eDental Project Board. It is expected that the new platform will be rolled out to all practices by 2017.

### *e-Schedules*

11. Practitioner Services have recently piloted sending emails to dentists providing NHS services, to inform them that their e-Schedule is available for viewing online (each month a schedule is produced that allows the dentists to see the volume and value of their NHS work). However, we continue to see limited use of NHS email accounts by dentists, which is required to support this initiative.

### *Information Sharing*

12. Under the aegis of information sharing, a number of programmes are currently on-going. Recently NHS Boards have been asked to make the Emergency Care Summary (ECS) to out of hours dentists and the Public Dental Service, this roll-out is ongoing. The eDental Programme Board, again through NSS, is also taking forward a piece of work, to scope the possibility of sharing clinical dental records as patients are transferred within the Scottish Prison Service. At present there is no facility to exchange dental case notes of prisoners.

### *Other – Scottish Adult Oral Health Survey (SAOHS)*

13. There are a number of areas of discrete activity including the SAOHS. The eDental Programme Board intends, through ISD/PSD, to trial a central data collection exercise using a representative sample of practices of the whole Scottish population. This will allow suitable testing of the new IT capabilities.

### **Drivers of the Strategic Vision for eDentistry**

14. Table 2 provides a summary of the future development priorities grouped appropriately, a short description of the benefits of each priority, and the level of priority according to (i) critical, (ii) important, and (iii) desirable. There are a number of factors which will affect eDental developments, in particular the:

- availability of national funding to support the development and deployment of infrastructure that will enable interoperability at a regional and national level;
- resources available within Health Boards (and within partner organisations) to undertake strategic developments in parallel with the activities necessary to maintain business as usual; and,
- product roadmaps of key suppliers.

Table 2: Future development priorities in eDentistry

eHealth Outcomes	Future Development Priorities	Level of Priority	Benefits	
Clinical support	Referrals:		Using agreed minimum datasets, accurate and appropriate clinical information will be contained in any referral made. This will minimise any delay to patient care.	
	• All dental practices to refer via SCI.	Critical		
	• Dental PMS integrated to SCI	Important		
	Clinical portal:		Clinical portals allow clinicians to view key clinical information on their patients to inform their clinical practice.  Patient care will be more effective if decision support is embedded in dental clinical software. Decision support for ePrescribing will reduce errors and saves money	
	• All practices have access to portal	Important		
	• Staff have appropriate level of access	Important		
	• ePrescribing available	Important		
• Clinical decision support	Important			
• Online services extended to include correspondence, test results and patient health record summaries.	Desirable			
Improvement support	All practices access Quality Improvement & Supporting Practice dashboard	Critical	High quality performance data will allow dentists and practices to make informed decisions on improving practice and individual quality, performance and delivery.	
	Benchmarking data to be extracted directly from source	Important		
Business efficiency	Business portal:		Measurable savings in expenses and value for money in service delivery can be brought about by; 1. maximising efficient working practices (email, electronic data transfer, single logon and practice management software); and, 2. minimising waste (paper GP17s, paper communication and xray films)	
	• All communication to and from practice by NHS email	Critical		
	• Clarity over end date for paper GP17	Critical		
	• Agreed standards for sending digital images	Critical		
	• eSignature functionality	Critical		
	• Simplify access for dentists by having single logon	Important		
• Remote access	Desirable			

Patient empowerment	Dental Patient Voice Questionnaire to GDS and HDS		By seeking the views of patients, dental providers can improve their service quality.
	· Extend to GDS	Critical	
	· Extend to HDS	Important	
	Patient portal available to access		Improved communication with patients by giving information on standards within their chosen service and options to book online. Involve patients by providing educational information on their condition and summarised personal oral health data to enable co-production and self-care.
	· information on service standards (QulSP data)	Important	
	· online appointment booking	Desirable	
	· personal oral health record	Desirable	
· oral health care information	Desirable		
· messaging between practice and patient	Desirable		
Information sharing	· Emergency Care Summary (ECS)/ Key Information System (eKIS) available to all dental practices	Important	Access to quality patient information will allow practitioners to make informed decisions about the treatment options available for their patients. Such information will be consistent and able to be shared between health and social care partners where appropriate.
	· Transfer of ePatient Record between dentists	Important	
	· Transfer of patient information between dentists and other partners e.g. NHS 24, social care & education setting	Desirable	
Mobile working	Community & school-based dental services supported to work effectively		Clinicians will be able to access information about their patients and clinical decision-support tools, when and where they need it
	· in the absence of connectivity	Important	
	· using wireless solutions	Desirable	
Data to support planning	Population-level data		To maximise the benefit of using data for management, planning and research there must be a culture of recording quality assured data at the clinical encounter.
	· Implement Scottish Adult Oral Health Survey	Critical	
	· National Dental Inspection Programme (NDIP) software replacement	Desirable	
	· Board access to data warehouse for service planning	Desirable	Systems should have agreed formats and standards for recording and displaying information, with existing data utilised as much as possible to avoid unnecessary re-capture of data which is already held.
	Service-level data		
	· Dental 'contract' to support data quality improvement	Critical	
	· Review secondary care eDental requirements	Important	
· Improve quality and use of data held	Important		



### *Clinical Support*

15. Under the aegis of *clinical support* we have identified the immediate priority as establishing clinical referral pathways. In the longer-term we intend to develop a national system using SCI Gateway that mirrors what is currently taking place in GP services. Likewise, the Tayside clinical portal pilot is an initial step that could be usefully developed to allow appropriate information sharing between different dental practices and may yield key lessons for other regional clinical portals. The dentist specific aspects of clinical portals is being approached in the context of the wider use of portals for clinical information sharing as described in the eHealth Strategy.

16. We will also provide a scoping survey of an ePrescribing facility for dentists. At present GPs have ePrescribing facilities and given that around 10 per cent of antibiotics are prescribed by dentists, it is important to give further consideration to whether a similar facility for dentists would be viable. This work will link into the eHealth Integrated Safer Medicines Programme and Prescription for Excellence.

17. At present CHI numbers are used sporadically on electronic dental information. As the agreed unique patient identifier within NHS Scotland, CHI numbers should become mandatory on all electronic dental communications. This will increase the ability to link patient data when required, both across dentistry and wider disciplines. As an example, advances in data portals and data sharing are evidently reliant on the ability to uniquely identify patients. As the system which manages the CHI number generation and process is currently being reviewed to support future needs, we will engage with this Programme to understand if future direction could provide additional functionality or benefits to Dental systems or processes.

### *Improvement Support*

18. Under the aegis of improvement support, the Strategic Vision includes the commitment to develop the Quality Improvement and Supporting Practice (QulSP) pilot, with full integration with practice systems in the longer term. Also referenced is the prospect of a fully integrated NES portal for dentists' continuing professional development (CPD) and quality improvement activities.

### *Business Efficiency*

19. Under the aegis of business efficiency, the core elements are the replacement e-payments programme and e-prior approval (currently prior approval is a paper-only process). The provisional time-table for the programme is April 2017. The programme also includes facilities to allow practices without a PMS to transmit via a web-based form. A major initiative of this programme then is to allow practices the opportunity to move to electronic submission, without the need necessarily to invest in a comparatively expensive PMS. To facilitate this move we intend to make electronic submissions obligatory.

20. Additionally, it is our intention is to allow e-signatures by 1 April 2016 and mandate communication by NHS mail by 1 April 2017. This will be a further move

towards a paper-lite workplace, by allowing practices that have invested in information technology to acquire additional benefits.

#### *Patient Empowerment/Patient Portals*

21. A national patient portal is being developed within NHS Scotland with a view to allow patients to access online services and summary personalised Electronic Patient Record. The eHealth Strategy aims to achieve access by all citizens in Scotland to a baseline portal by 2020. This portal could also provide access to data for individual dental patients to use directly in support of their own oral health care including access to correspondence, test results and oral health summaries. eDentistry will determine how best to engage with the existing programme to ensure the eHealth vision of a single health information access point for citizens is realised

#### *Dental Patient Voice*

22. An informed public will ensure real patient choice and so we need to provide access to relevant information on how dental services are performing across a range of quality indicators. These indicators are part of the QuISP pilot and access to data by patients should be available through a patient portal and be in a meaningful format. Equally the views of dental patients are key to service improvement and so NHS dental services should actively seek the views of its patients. We are currently developing an 'App-based' solution to this. When development and testing is completed this should be rolled out across all dental services in Scotland.

#### *Information Sharing*

23. Under the aegis of information sharing, the Strategy looks to build on the work with the Emergency Care Summary (ECS) to date, by exploring the option of access to ECS, KIS and other key patient information for high street dentists. The Tayside clinical portal pilot is a first step towards this.

24. Independent contractor dental practices are private businesses which have arrangements with the NHS to deliver services on its behalf, historically dentists regard the patient notes being 'owned' by the practice. Patients would have an expectation that their notes should follow them if they change dentist. Therefore, in the longer-term we also need to facilitate the transfer of either the patient notes or key treatment and oral health information between practices. Thus, a patient who moves address, or changes their practice for whatever reason, is able to do so without the loss of the treatment history associated with the care at their old practice.

#### *Mobile Working/Data to Support Planning*

25. Without appropriate access to the quality information dental teams cannot provide person-centred, safe and effective services to people. This is particularly relevant to teams working in remote and rural areas and those providing care to people at home or in residential accommodation. Initial consideration should be given to enabling dental teams to work remotely more effectively, using existing clinical software if possible but in the absence of connectivity through off-line synchronisation to allow updates to be made once connectivity is re-established. Longer-term, wireless

solutions to access web versions of dental clinical systems for tablets and smart phones making information and clinical decision support (CDS) available at point of care should be developed. The CDS element will be considered as part of, or in close alignment with, the national roadmap for Clinical Decision Support across NHS Scotland which is currently in development.

26. A system that provides objective, timely and accurate information is the basis for sound decisions that are in the best interest of patients. With better information and we can see how the system is performing and can assess its quality and progress. Scotland is very fortunate in having a long-standing and widely praised National Dental Inspection Programme (NDIP) which tracks the oral health on children in Scotland and which has allowed us to chart the benefits the Childsmile oral health improvement programme has brought. However NDIP requires to be revised and transferred to a platform which can be supported more effectively as we go forward.

27. The sound data which Scotland has regarding child oral health is not available for adults and this is a gap in our 'oral health intelligence'. The SAOHS is a first attempt to address this gap but still relies on dentists completing data collection sheets in their practice. The obvious next stage would be to have the ability to extract the data from dentists' practice management software from their routine clinical data without any additional effort on their part. This is similar to the medical Scottish Primary Care Information Resource project (SPIRE) and there may be merit in investigating some reuse and/or joint working with our medical colleagues. This aspect will be considered in the context of the on-going development of an Information Strategy for NHS Scotland.

28. An additional gap in our 'oral health intelligence' is activity data at a treatment level from the secondary care sector. A review should be undertaken to determine the eDental requirements of secondary care dentistry and its potential to interface with primary care services.

## Key Stakeholders

29. There are a wide range of stakeholders on whom any progress with this strategic vision is dependant. Table 3 sets out their various requirements:

<p><i>Scottish Government – assurance on:</i></p> <ul style="list-style-type: none"><li>• Oral health improvement</li><li>• Access to services</li><li>• Quality of care</li><li>• Value for money</li><li>• Alignment with other national policies and strategies</li></ul> <p><i>Health Boards (inc. NSS/PSD) – governance, consisting of:</i></p> <ul style="list-style-type: none"><li>• Scrutiny</li><li>• Patient safety</li><li>• Service improvement</li><li>• Data monitoring</li></ul> <p><i>Dental SystemSuppliers – clarity:</i></p> <ul style="list-style-type: none"><li>• Software development requirements and timescales</li></ul> <p><i>Dental Practices – efficiency in:</i></p> <ul style="list-style-type: none"><li>• Clinical support systems</li><li>• Care pathways</li><li>• Monitoring performance</li><li>• Business processes</li><li>• Payments systems</li><li>• Mobile working</li></ul> <p><i>Patients &amp; Public – information on:</i></p> <ul style="list-style-type: none"><li>• Standards of dental services</li><li>• Access to personal oral health record</li><li>• Oral health conditions and self-care</li><li>• Communication with dental practices (appointments/repeat prescriptions)</li></ul>
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Table 3: Stakeholder requirements

### Governance Arrangements

30. The Strategic Vision for eDentistry will be overseen by the eDental Programme Board; which in turn links with the eHealth Programme Board.

### Summary

31. The actions required to achieve the outcomes described in this paper can be grouped into 3 main phases of development, linked to the level of priority ascribed above. The developments need not be fixed within these phases and, as progress is made, it may be prudent to shift developments between phases to ensure maximum efficiency in the development process.

32. By the end of phase 1, dental practices will be paper-lite. All communication with NHS Boards and referrals will be electronic. Additionally, all processes linked to recording activity, prior approval for treatment plans and payment at completion of treatment will be electronic. Importantly, dental practice owners and individual

dentists will have ready access to information, including patient opinion, to monitor practice or their individual performance and to make improvements. Patient will have a choice of communication methods, including electronic ones, to contact their dentist.

33. Phase 1 has as its focus, business efficiency for dental practices. Having all primary care practices networked and working electronically will enable the clinical and patient benefits to be realised from follow-on phases. Phase 1 should be completed by end-2018 with some interim key dates already planned:

- from 1 April 2016, eSignatures will be allowed, thus removing the need for a paper-GP17 to be kept.
- from 1 April 2017, all communication between NHS Boards and dentists will be via NHS email.
- from 1 April 2017, all referrals by dentists will be sent by SCI Gateway.
- by 1 January 2018, all claims for payment and prior approval must be electronic, by practice management software or web-based GP17,.

34. Phase 2 will have a focus on extending access to information for dentists and practice owners to improve clinical care of patients and the efficiency of a dental practice. Phase 3 will focus on improving access to information and online services for patients and carers. The timeline for phases 2 and 3 will be announced as the implementation of phase 1 progresses.