

# Practice re-engineering

## New possibilities of harnessing a web-based PM system

Professor Nizar K Hirji describes how the power of the internet can be harnessed to offer optical businesses more efficient and more cost-effective practice and patient management systems

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Initial considerations for practice re-engineering outlined in last month's article (OPTICIAN, September 30) suggested that a 21st century 'best of breed' web-based practice management system (PMS) ought to be considered for a variety of reasons as an 'enabler' when revising business processes.

This article reflects some of the distinctive functionality that such a web-based PMS could offer ophthalmic practices. However, before looking at this, it would be useful to consider the typical functionality that many current commercially available traditional PMS offer (Figure 1). These functionalities are designed to enable practice personnel to use computer technology as they interact with patients along the customer journey; while at the same time managing the information flow and business transactions with other staff, patients and suppliers.

The optometric patient journey begins with the patient recognising the need to select and attend the optical practice. Next, they schedule an appointment, attend the practice, undergo any pre-exam data collection, have a consultation with the optometrist and then the dispensing optician. The patient then selects, orders and collects the products where appropriate, completes all the business transactions along the way and leaves the practice awaiting future contact.

This journey is somewhat extended for the prescribing and supply of contact lenses, with additional interactions with staff, as patients undergo a more detailed assessment of the anterior eye and contact

lens fitting, attend for instructions on wear care, hygiene and collection of lenses, and complete any additional associated business transactions.<sup>1</sup> It is not surprising, therefore, that there are traditional PMS software modules that help practices manage their systems better. These include the following:

◆ **Reception activities** – scheduling appointments, printing appointment cards, recording patients' personal information, NHS eligibility and collecting relevant data, completion and printing of NHS forms etc.

◆ **Pre-exam activities** – collection/collation and recording of data on focimetry, autorefraction, non-contact tonometry, visual field analysis, clinical image capture, colour vision analysis, stereopsis etc.

◆ **Consulting room activities** – recording clinical notes, report and referral writing, clinical image capture, provision of clinical support software to consult data or enable further diagnostic tests, trigger specific recall schedules for individual patients, providing access to animated patient education material etc.

◆ **Optical dispensary activities** – educating patients and helping them visualise finished lenses, selecting spectacle frames, providing information on product availability, managing fees and charges, generating orders for prescription houses, managing lens and frame inventories, pricing, ordering and chasing/tracking orders, contacting patients when products are ready to collect and managing that interaction.

◆ **Practice administration activities** – recall letters, emails, text messages, through to setting up direct debits, patient recommendation tracking, accounting, marketing (including web presence), personnel records etc.

Traditional PMS software suppliers will often supply and install 'modules' separately with a view to introducing the complete range of modules in due course, which may suit the practice as they introduce a PMS 'one module at a time'. Many will also provide some internet functionality by 'bolting-on' to their existing software, making them internet enabled.

However 'best of breed' web-based PMS built from the base up to harness the power of the internet will tend to use 'thin-client' technology – an easy-to-use and cost-effective model that allows connection of the desktop to software applications located anywhere in the world. This is in effect using the internet as a 'data utility' not unlike electricity. Detailing the benefits at every patient/practice interaction of a web-based PMS is beyond the scope of this article and only an overview of some key/potential interactions will be described. Like other application programs, such software utilises user input validation at every step ensuring that information input is correct while rejecting incorrect entries. Should errors be detected, the software takes over the 'navigation' and stops the user from going on to the next screen until errors are corrected.

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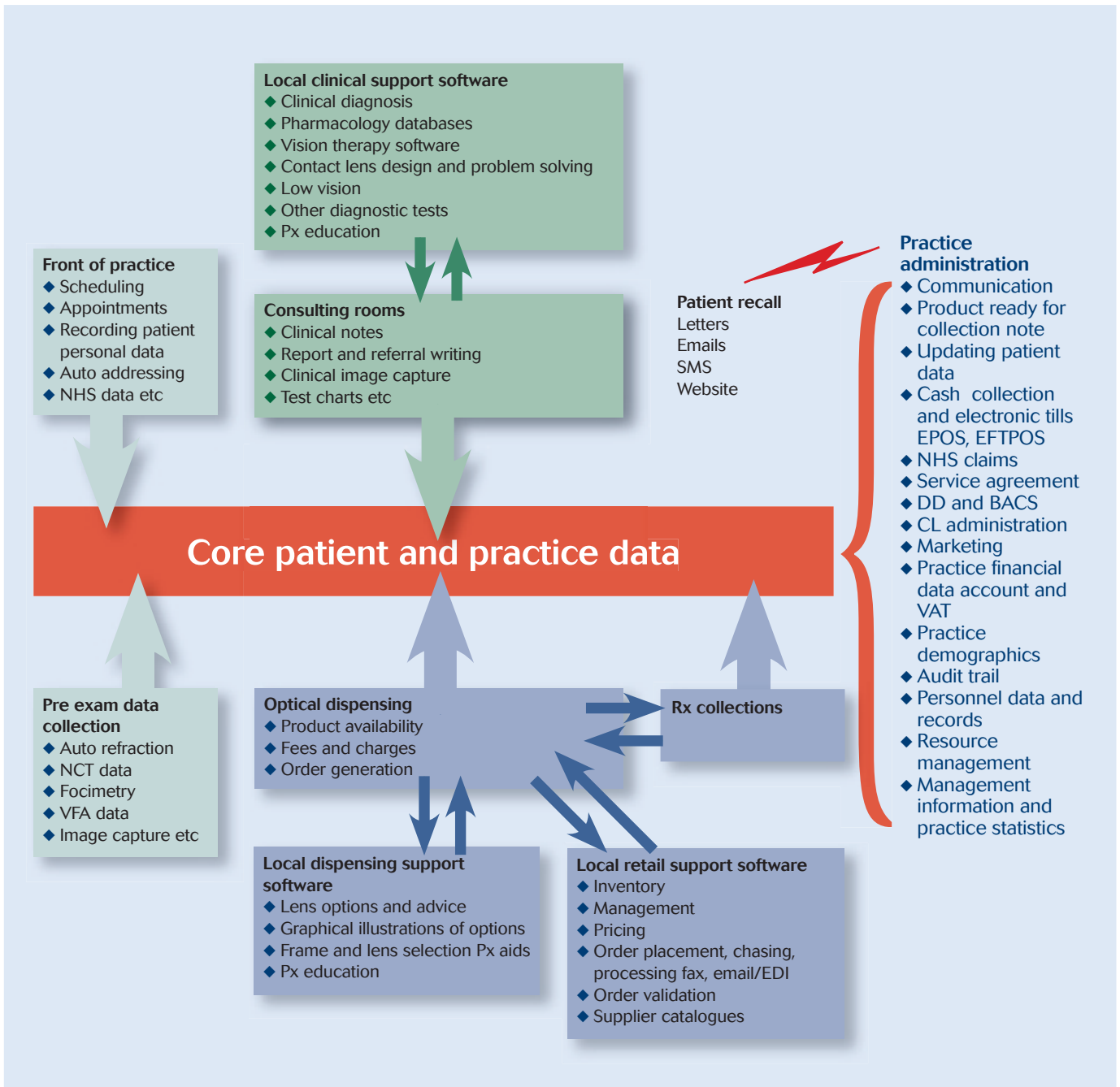


FIGURE 1. Traditional PMS with 'bolt-on' internet functionality

**Possibilities of patient-practice interactions with a web-based PMS**

Once existing patients are issued with unique user names and passwords, they can access to a pre-determined level (controlled by the owner-manager), the practice's web-based PMS, and immediately entirely new business processes become possible including the following:

- ◆ Self-scheduling of appointments in

the practice diary. The diary could be accessible online at all times for patients to book appointments that the practice can pre-set/pre-restrict (with a pre-payment of fees if that is appropriate). Similarly new patients wishing to attend the practice could schedule an appointment (on pre-payment of exam fees if required) online too. At this stage the patient could even elect how to have a reminder sent to them about this appointment – eg by post, email or text – so that they are reminded to attend, thus

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potentially reducing non-attendance. Practice staff would spend less time on the phone allowing them to utilise this time to work on other more pressing and productive matters in the practice face to face with patients. Patients on the other hand would get a potentially better match of their appointment time and requirements and could cancel or reschedule their appointment, or check when their next appointment is scheduled and what it is for, without having to phone in or come into the practice. Since the diary is accessible at any time from any internet enabled device, including mobile phones, without support or maintenance costs, the patient receives an excellent service and the practice will be perceived as technologically up to date.

◆ Ensuring that the practice holds current data on patients (eg contact details, phone numbers, email addresses, preferred method of receiving communication from the practice and so on). Practices that require a questionnaire to be completed as a pre-requisite to attending, can make this available for completion or updating by the patient while logged-on from home.

◆ Patients could track the progress of any spectacles/contact lens supplies they may have ordered and are waiting to collect. When they have been verified and are ready for collection, as indicated by the web-based PMS (say via an email being triggered or by checking online), patients could pop into the practice, or make an appointment online, to collect and, where appropriate, elect to have the products delivered and pay online. Ordering duplicate spectacles and replacement contact lenses, and paying for them online, rather than having to phone in or visit the practice to invoke the transaction also becomes a reality.

◆ Obtaining copies of spectacle or contact lens prescriptions, copies of receipts, and access to a summary of their optometric clinical records for a fee in compliance with the Data Protection Act 1998 could also be invoked via the web-based PMS (with appropriate restrictions).

**Possibilities of staff-practice interactions with a web-based PMS**

When practice personnel have been allocated unique user names and passwords, with access to a pre-



The diary could be available online at all times for authorised patients to book appointments

determined level controlled by the owner-manager, entirely new business processes become possible including the following:

◆ The appointment diary can be viewed from anywhere there is access to the internet (with the option to download the information to the device and/or print a copy as appropriate). This also opens up the possibility of a 'call centre' approach to managing all appointments by phone from a non-practice or front desk location, thus effectively outsourcing the appointment booking/management task. Of course, this can easily be invoked for multiple locations (ie single contact point/call centre to manage all appointments for a group of practices). Staff could also access their schedules for the next day, week or month from any internet enabled computer or PDA.

◆ Owner-managers could manage their staff and physical practice resources remotely, by allocating resources to practice(s)/days that are likely to provide the best service to the patients and returns to the business on much shorter time scales (hourly or daily). These 'last-minute' changes would be instantly reflected by the web-based PMS in the appointments diary ensuring that the local demand for professional services are met more effectively allowing for speedy adjustments for sickness, absence and so on. Blocking out staff holiday times ensuring that their available time is integrated effectively with the demands of

the practice, better management of duty-rota, employee availability and allocation or re-allocation of staff resources could be done from any location with the most up-to-date 'demand' and resource 'availability' information to hand and 'instant' communication of these and any other changes to all staff and practice affected or otherwise – thus enabling staff to share information instantly across physical boundaries.

◆ From a clinical perspective practitioners could access records from any location via the internet, opening up the possibility of 'tele-optometry' using additional input/output devices (eg digital video cameras, microphones). Such access to patient records becomes particularly useful when providing domestic and/or emergency ophthalmic services from locations other than the base practice. At the base practice too, a web-based PMS would enable practitioners to interact and share information in 'real-time' with other colleagues and staff, to review ocular data (including images), and obtain a view or second opinion 'online' enabling consults with colleagues or other professionals, who are not at the base practice a reality – improving patient care in the long term. Access to online real-time up-to-date clinical support software and databases would enable practitioners to check and avoid potentially incorrect diagnoses, obtain information about availability of drugs and correct dosage – once again improving clinical care. Patient education with a web-based

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PMS could offer selective information tailored to individual patients' needs, available online routinely, after a practice visit to re-enforce face-to-face practitioner counselling and education.

◆ New marketing and promotional activities become possible, including attracting more patients and customers by exclusive online incentives to existing or new patients. Similarly, patient feedback surveys could be conducted online, the information being collated and summarised for action by the practice on a continuous basis for improved patient and customer care. Printing recall letters, sending emails and or text messages from any location (central or local) to any printer on the web-based PMS without any additional software or update being required, makes this a simple and realistic option. If a practice is unable to run their patient recalls locally (say due to staff sickness/absence) then this could be done at another location without change in the software. Business continuity in case of a disaster (fire, flood etc) becomes quite straightforward. With the web-based PMS holding the up-to-the-minute practice data securely off-site,

**'Practitioners could access records from any location via the internet, opening up the possibility of 'tele-optometry'**

patients could be contacted easily and practice activities resumed quickly either from a different location or from the same location, without loss of the data captured. This also means that storage space for patient records is no longer an issue with a comprehensive web-based PMS offering capture of all clinical and administrative information. Additionally, analysis of practice data in this environment would give more accurate views of the practice activities because the data analysed would always be up-to-the-minute.

Comparing practices and differences between them, becomes a much more valid exercise, as does practice benchmarking. It becomes possible instantly (in real-time) to establish stock levels and in multi-location businesses staff can 'draw' on this stock regardless of its physical location. This obviates the need to invoke stock data synchronisation routines to reveal actual stock levels, thus allowing practice staff to have instant control. Finally, the administrative challenge of a patient who attends one practice but collects and pays for products at a different practice, becomes very straightforward within this environment.

### Is such web-based PMS software commercially available?

The answer at present is both yes and no. It is available, but not necessarily with all the functionality mentioned in this article. However it is only a matter of time.

Depending on whom you ask, using a web-based PMS built from the base up to harness the power of the internet, can be viewed as a new way to do business, or as a new enabling technology. One thing is certain, shifting control of specific operational aspects of the business to patients, customers and staff, and capitalising on the added functionality that a web-based PMS brings, will create new and often unique business challenges, hitherto not encountered.

Whatever your interpretation, such practice management systems may be just what is needed to give practices that competitive edge through business process re-engineering.

#### Reference

1 Hirji NK. *Practice management in Contact Lens Practice* ed N Efron, Chapter 42, p456, Butterworth Heinemann, Oxford, UK 2002.

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