



Practice Management Systems (PMS)
Review Findings 2011

Executive Summary

April 2012

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1 PURPOSE OF DOCUMENT

This document forms part of the Primary Care Practice Management System (PMS) evaluation.

It contains vendor self-assessments to detailed questions across the five key focus areas for the 2011 PMS systems review. It includes a commentary and assessment of the vendor responses and systems undertaken by an independent panel working with the Patients First Programme and the National Institute for Health Innovation (NIHI).

The report is designed to be a “consumer style” review whereby an independent panel reviewed responses to structured questions across a subset of areas for each of the four New Zealand General Practice PMS systems (Houston’s VIP 2000, Medtech’s Medtech 32, MyPractice and Intrahealth’s Profile).

The review is, by necessity, limited in scope and will be supplemented by further areas of focus in future reviews.

Note

One PMS vendor, Medtech, declined the opportunity to provide a self-assessment of their product.

Evaluation of Medtech was based upon knowledge of Medtech PMS obtained through experience of its use and through inspection of its user interface. In compiling this report, the panel did not have access to technical descriptions of the Medtech system, architecture, internal workings or its interfaces.

Throughout the report, statements expressed represent the conclusions reached by observation of the Medtech user interface, limited information provided in documentation (e.g. help files) and the company website, and by deduction. It is therefore possible some statements may be factually incorrect.

A copy of the draft detailed report was provided to Medtech and the company was given an opportunity to respond. Feedback from Medtech has been factored into this report and corresponding star rating.

Apart from this variance, the review process was applied in precisely the same manner to all participants.

2 CONTEXT

Document	Coverage
PMS-Requirements Executive Summary v1.1	Summary of the PMS requirements and focus areas – how the project arrived at the approach and initial set of focus areas.
PMS Review Findings 2011 - Executive Summary (final) (this document)	A high level summary of the process and findings across the 4 PMS systems.
PMS Review Detailed Report 2011	The detailed questions across the five key focus areas, including the vendor responses (with the exception of Medtech) and independent panel assessment.

These documents can be found on the Patients First website www.patientsfirst.org.nz/reports under the PMS Review section.

3 INTRODUCTION

This report from the Primary Care Practice Management System (PMS) Requirements project is provided for primary care clinicians, general practices, general practice networks, those procuring general practice IT systems, Primary Health Organisations, District Health Boards and PMS vendors.

It sets out the first in a series of assessments of PMS systems currently available in New Zealand and comprises a summary of the detailed review of each system against predefined areas of focus.

This is the first comprehensive evaluation of primary care IT systems produced in New Zealand. The process will be repeated in future at regular intervals and encompass 3-5 new review areas per review and an update

against previous areas of review where there have been substantive changes made to the software or evidence of factual error in an earlier review.

It should be noted that this is not a comprehensive review of all PMS functionality. This process and report represents the first step in a journey around quality, safety and the role of information and increasingly, integration to enable this.

4 BACKGROUND

In 2010, the PMS Requirements Project was commissioned by the National Health IT Board to define and prioritise the desired functional and non-functional requirements of a PMS. That report recommended the evolution of a process toward certification starting with a vendor evaluation process that involved the vendors in a self-assessment that was evaluated by an independent expert panel. The evaluation framework enabled objective assessment of progress by vendors towards systems that can support delivery of quality care both today and in the future.

The validation process was based on independent review by a multi-disciplinary team of primary healthcare professionals whose role was to evaluate the four PMS products - VIP2000 (Houston), Medtech32, MyPractice and Profile (Intrahealth) - against the top criteria outlined in the PMS requirements report, and to act as an on-going advisory and review board for future focus areas for PMSs.

The objective was to publish, in a public forum, an evaluation that had been derived through:

- vendor self-assessment of their respective PMS product(s) against the criteria; and
- an independent and facilitated process of evaluation by the Review Panel against the criteria.

The intent is to provide:

- for the sector: a credible, independent and accurate appraisal of PMS systems to help inform purchasing decisions; and
- for vendors: clearer understanding as to the requirements and priorities of the market and identify areas for quality improvement.

5 CERTIFICATION / VALIDATION PROCESS

A fully robust certification regime is likely to be a substantial investment, and take time to put in place.

Given that detailed PMS requirements are evolutionary, the project was initiated by identifying a subset of five areas of focus. Going forward, there is planned to be a rolling six month process of review, with additional areas of focus and detailed PMS requirements added over time.

The review process will be refined over time. As the process is largely subjective, based on the opinions of the Panel, the project sought to remove the possibility of bias by providing vendors with equal opportunity to self-assess, with these assessments reviewed by multiple panel members across both functional and technical areas.

As each new review takes place, the vendors will have the opportunity to advise the Panel where areas covered in earlier reviews may have undergone development or enhancement and warrant a re-assessment of the relevant functional area. Over time, the PMS review takes a cumulative and up-to-date view of the areas reviewed to-date.

6 WHO WAS INVOLVED?

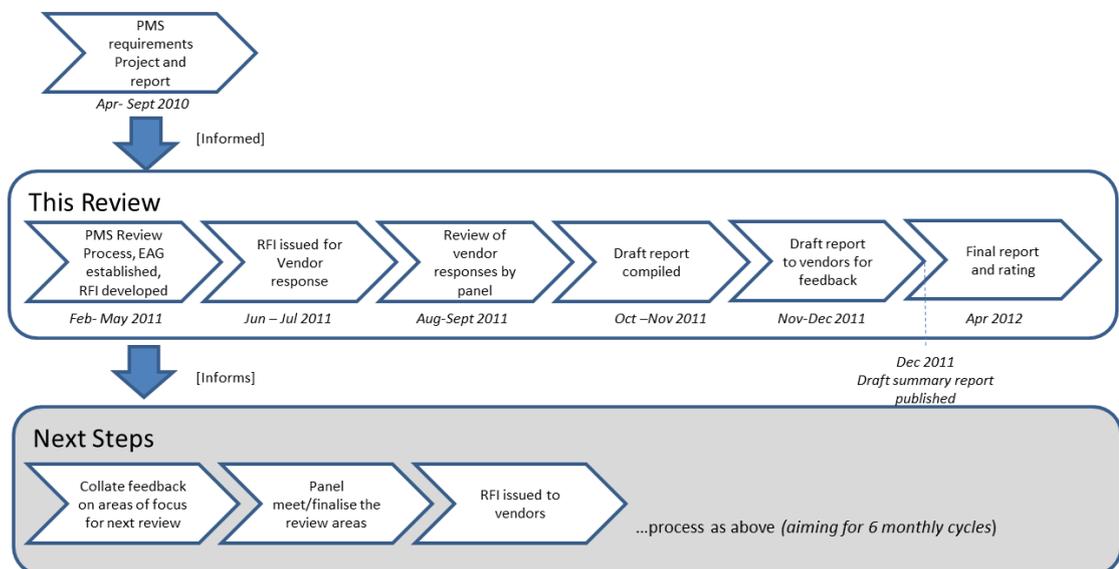
- *Patients First Programme*
 - Developed an initial set of requirements based on sector review and consultation.
 - In October 2010, published a process for review and evolution of requirements over time.
- *National Institute for Health Innovation (NIHI), University of Auckland*
 - Has recently supported the evaluation of several national systems.

- Was contracted by Patients First, to be the moderator of this review process and repository.
- **PMS Vendors**
 - Invited to participate by way of responding to the RFI developed for the review.
 - Houston, Intrahealth and MyPractice responded to the original RFI document then to the subsequent vendor review of the draft detailed report relating to their respective products.
 - Medtech declined the invitation to respond to the original RFI document and took the opportunity to respond to the subsequent vendor review of the draft detailed report related to their product.
- **Independent multi-disciplinary review panel**
 - Consisted of general practitioner, nurse, practice manager and technical experts.

7 THE REVIEW PROCESS AND TIMELINE

- The diagram below outlines the review process and corresponding timeline.

PMS Review Process



- The process included:
 - **Issue of RFI and voluntary self-assessment by vendors:** vendors responded to a set of defined questions outlined in a Request for Information (RFI). Vendors were offered the opportunity to respond to the RFI on the basis that, where vendors did not elect to be part of the process, the panel would make best efforts to review the relevant product. Houston, Intrahealth and MyPractice responded to the RFI. MedTech declined the opportunity to respond to the RFI and the panel completed the RFI questions based on a best-efforts analysis of available information.
 - **Vendor responses reviewed by the independent panel.** The panel provided comments where appropriate.
 - **Initial allocation of star ratings:** the panel allocated a star rating to each of the five areas as an illustration of findings as they related to the primarily functional aspects of the system, and to the technical aspects.
 - **Review of draft report and findings by vendors** - the draft report and findings for each product (excluding star ratings) were provided to each vendor with an opportunity to review the report and correct errors of fact. All four vendors engaged in this stage of the process.

- **(Draft) Summary Report:** the summary report was published to the sector. Future iterations of the review will publish both Summary and detailed reviews of the final report at the same time.
- **Final report and star ratings:** the panel updated the detailed report where relevant based on reviewing the vendor feedback. The panel reviewed the star ratings based on material changes from this process.

Note: report findings and commentary are subjective and represent the opinions of the panel members who reviewed the products.

8 INITIAL (HIGH FIVE) SET OF REQUIREMENTS

A full review of the functionality of each product was regarded as being too ambitious for this first iteration. As a starting point, the investigation undertaken by the Patients First Programme highlighted an initial subset of areas and priorities the review should focus on for the evaluation¹. Referred to as the “High Five”, these are:

Area	Brief description
Structured data within the PMS	Use of defined code-sets that are common across the sector (e.g. LOINC for Lab coding)
Published (standards based) APIs (application programming interface)	The ability to share structured information across different systems
Support for interoperability standards, with e-Discharge, e-Referral e-Community Prescribing as the priorities	Supporting the structured flow of information between secondary and primary care
Information security, access and privacy	How information is protected and access to and updates of information are controlled and recorded
Usability – with an initial focus on “alert fatigue”	How alerts are presented to PMS users based on their role and the ability for the user to easily differentiate between high priority clinical alerts and lower priority and non-clinical alerts

9 FINDINGS

It should be pointed out that the review is not, at this stage, comprehensive. It does not look at many areas of functionality; some of the additional functions that some PMS systems offer and that others don't; or commercial aspects such as total cost of ownership or support. The review was only concerned with current systems and current versions and no account has been taken of future enhancements or planned replacement systems.

With these caveats, the review identifies significant variations in the results of the assessments of each system. These variations are illustrated in the star rating matrix below.

¹ <http://www.patientsfirst.org.nz/wp-content/uploads/2011/03/PMS-Requirements-Exec-Summary-v1.1.pdf>

Star Ratings	
There are two ratings for four of the product/focus areas. The first line of stars relates to the views of the functional panel, the second line reflects the ratings of the technical panel.	
☆☆☆☆	Fully meets the required level of function, design and/or technical approach
☆☆☆	Mostly meets the required level of function, design and/or technical approach, but some improvements required in specified areas
☆☆	Falls short of required level of function, design and/or technical approach in a number of areas, considerable work required in specified areas to meet standard
☆	Substantially fails to meet required level of function, design and/or technical approach.

This matrix provides a high level view of the assessment panel. It is recommended that any person or organisation interested in understanding how ratings were determined, should review the full report.

Although this review is intended to provide guidance to those selecting PMS systems and to provide suppliers with guidance in terms of their future development strategies and areas for quality improvement, it is stressed that many other dimensions relating to these are currently outside the scope of this report and should be taken into account.

It should be noted that this is a point-in-time review. Although the Patients First Programme will attempt to maintain the currency of these assessments, it cannot guarantee its accuracy in the future. Vendors will be provided with the opportunity to advise, in future reviews, where they have made material changes to the areas of functionality reviewed previously. Where this is done, the panel will re-assess those areas and provide an updated rating based on new evidence.

	Structured data	Published API	Interoperability	Security	Usability (of alerts)
Houston	☆☆☆		☆☆	☆☆	☆☆☆☆
	☆☆	☆	☆☆	☆☆	☆☆☆☆
Intrahealth/Profile	☆☆☆☆		☆☆☆	☆☆☆☆	☆☆☆
	☆☆☆☆	☆☆☆	☆☆☆	☆☆☆☆	☆☆☆
Medtech 32 *	☆☆		☆☆	☆ [**]	☆
	☆☆	☆☆	☆☆	☆ [**]	☆
MyPractice	☆☆☆☆		☆☆☆	☆☆☆	☆☆☆☆
	☆☆☆☆	☆☆☆☆	☆☆☆☆	☆☆☆☆	☆☆☆☆

* As Medtech declined the opportunity to respond to the RFI, the report relating to Medtech is based upon knowledge of Medtech PMS obtained through experience of its use and through inspection of its user interface. In compiling this report, the panel did not have access to technical descriptions of the Medtech system, architecture, internal workings or its interfaces.

Throughout the report, statements expressed represent the conclusions reached by observation of the Medtech user interface, limited information provided in documentation (e.g. help files) and the company website, and by deduction. It is therefore possible some statements may be factually incorrect.

A copy of the draft detailed report was provided to Medtech and the company was given an opportunity to respond. Feedback from Medtech has been factored into the report and corresponding star rating.

** Note as of March 2012, the project has been advised that a fundamental security issue assessed at the time of the review has now been addressed as part of Medtech's Version 20 now in general release.

10 REVIEW APPROACH AND COVERAGE

One of the PMS suppliers, Medtech, declined the opportunity to respond to the RFI and to provide a self-assessment of their product. Initial assessment of their Medtech32 system was carried out by a number of expert users of the system, based upon their experience of the system. Technical experts, also familiar with the system provided additional inputs.

Apart from this variance, the review process was applied in precisely the same manner to all participants.

The panel acknowledges the support and participation of MyPractice, Intrahealth and Houston and Medtech in the latter stages of the review. All vendors, including Medtech, were given the opportunity to review the findings of the panel to correct any matters of fact.

This is the first example of comprehensive PMS review carried out in New Zealand, and while there was some in-flight process refinement, the review process worked well and has resulted in consistent and valuable set of results.

11 COMMENTARY – HOW DID THE PMS PRODUCTS STACK UP?

Vendor products were reviewed through two lenses:

- Functional - what do end users think of the usability of the system?
- Technical - how well is the underlying architecture and technology put together?

In the New Zealand environment, most PMS installations are based at practices and are reliant on practices upgrading to the most current release. The user base is not a level playing field, even when comparing general practices who ostensibly 'use the same software'.

Three vendors asked the panel to factor in new/upcoming software versions; however, this review was focused on products currently available to the market. The panel believes vendors are placing greater focus on delivery of new software versions rather than maintaining legacy systems currently in use.

Vendors are encouraged to advise how their new versions will improve functionality and the panel looks forward to reviewing these once they are available for general release.

There is an increasing awareness of, and interest in, a hosted or "cloud" computing option for PMS which will address keeping functionality current, backup and availability and introduce new challenges. This is likely to be one of the topics for a future PMS review in this series.

The body of this report includes a detailed section for each vendor containing a detailed set of questions per focus area, vendor self-assessment and panel commentary. A summary of some of the key points from the review are outlined below.

11.1 Structured Data

Being specific about data at item rather than text block level provides the foundation for interaction with other systems and practices and unlocks the ability to provide refined reporting and clinical decision support.

- Intrahealth and MyPractice scored highly in this area though it was noted that Intrahealth are yet to make GP2GP available for general release.
- Both MyPractice and Intrahealth have strong clinical coding functionality.
- The functional review of Houston highlighted that while the end-users could generate templates and forms easily, from a technical perspective, there is a lack of structure in the data model.
- The panel observed a high degree of free text use in Medtech (e.g. alerts), and no published data model (which Medtech advise is their Intellectual Property, proprietary and confidential).

11.2 Published API (a common way of interfacing with the PMS)

API (Application Programming Interface) is a technical way of saying 'vendors publishing their data structure to enable sharing of structured information to/from different software products and across different systems'.

In the New Zealand market, there is increasing recognition of the need for information to be shared and for different systems to be able to be "linked-up".

- Intrahealth's predominant versions of their Profile product in use in New Zealand (7.0 and 7.2) have a degree of structured interface and some specific examples of custom interfaces were provided.
- Medtech uses their Advanced Forms interface for web-based connectivity to third party systems. GP2GP for Medtech has been successfully tested though is not due to be in general release until February 2012 [*subsequent note – now part of Version 20 in General Availability from March 2012*]. There is a limited set of clinical information Medtech provide access to via a read-only interface they have called their "HISO interface". The technical assessment by the panel noted that "*It appears that all the available interfaces are bespoke [and] with the exception of HISO forms and GP2GP, that there is no general-purpose I/O API exposed.*"
- Houston provides GP2GP functionality now in general release though does not provide any general-purpose API.
- MyPractice has a published comprehensive API for read and write of key data.

11.3 Interoperability priorities

Vendors were asked to outline work done to enable information sharing between systems. This largely focussed on adoption and use of current standards and on eReferral and eDischarge, although it did traverse into shared care.

- MyPractice is very active in all of these spaces and have strong technical alignment.
- Houston are compliant with many of the standards though are not active in the emerging development of standards and interoperability.
- Medtech's approach to inter-operability appears to be focussed on integration with their ManageMyHealth portal and a number of commercial relationships they have with third party products including bpac, HealthStat, Enigma among others and the licensing of their proprietary Advanced Forms mechanism to provide practices, PHOs and IPAs with the ability to build their own web forms interfaces. Medtech are compliant with the various standards that exist in the interoperability space.
- Intrahealth show a commitment to and involvement in the standards space in the sector though has indicated their focus for enabling these is in versions of the software not in general use currently in the New Zealand market.

11.4 Information security, access and privacy

As the market moves into shared care and better integration, sector discussions on information security and privacy are becoming increasingly active and relevant. Much of this needs to be driven by the clinical community rather than the vendors but it is useful to know the vendors' current approach and philosophy.

- IntraHealth, MyPractice and Houston provide the ability to design role-based security and access levels in addition to user level including in the case of IntraHealth, the ability for "break the glass" access (which is audited/recorded).
- Medtech's security is based at individual user level which provides user based security. MedTech have some significant technical exposures and weaknesses in the area of security. Under a 'do-no-harm' principle, the vendor has been advised of the panel's findings in this area and the detail has deliberately not been published in our report. [*subsequent note – the significant technical exposure has now been remedied as part of Version 20 made available in March 2012*]

- Three of the four vendors (all except Houston) are working with some level of web based portal this review did not focus on this.

11.5 Functionality relating to Alerts

The topic of usability is broad and the review was restricted to the key area of alerts. Intrahealth, MyPractice and Houston have the capability to accommodate different alerts. Due to the complexity of configuring this in the Intrahealth product some are not configured at practice level. Medtech does not differentiate between key/critical alerts and other alerts – creating a ‘noise to signal’ issue for the user.

12 ONLINE REPORT

The individual reports on each vendor product including the detailed questions, vendor responses and panel comments are available in this report which is also available in electronic format in the Reports section on the Patients First website at: www.patientsfirst.org.nz

13 HOW TO HAVE YOUR SAY

Have your input to what you think should be on our next review list. A set of proposed areas will be discussed and voted on by the panel to determine what gets into the next review. Please send any suggestions for focus areas to be considered by the Panel to: Andrew.Terris@patientsfirst.org.nz

14 ACKNOWLEDGEMENTS

The project would like to thank the following people for contributing to the review

Prof Bruce Arroll
Dr Koray Atalag
Dr Karl Cole
Dr Dianne Davis
Barb Fredericksen
Dr Sandra Hicks
Dr Douglas Kingsford
Symon McHerron
Ros Rowarth
Dr Jim Vause (Chair)
Dr Jan Whyte

15 WANT MORE INFORMATION?

For further information, please contact:

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Disclaimer

The findings of this review represent the genuine opinion of the Review Panel. In releasing its findings, no members of the Panel, Patients First, the Royal New Zealand College of General Practitioners, General Practice New Zealand, or the National Institute for Health Innovation accept or assume any liability, whether that liability arises by tort (including negligence), statute, or otherwise, to any PMS vendor (whether that vendor participated in the review process or not) or any other person that relies on the Panel’s findings.