A Guide to Chronic Condition Management

Part 4 — Managing Patient Information in General Practice

Inside this section

Patient Information Management

Introduction

Medical software programs currently used in general practice are excellent for information storage and retrieval on a patient by patient basis. However, most programmes have limited or difficult to use capabilities in regard to retrieval of information for the entire patient population. This makes them generally too difficult to use for systematic management of patients.

As a result of this a number of companies have designed computer programs (data extraction tools) that enable you to extract patient population information from your individual practice management systems. This gives the practice a way of looking at the information to enable quality improvement and clinical decisions for a range of different patient populations within the practice.

Data Extraction Tools	
Examples of Extractions include:	Diabetes
	Coronary Heart Disease
	Asthma
	Individual diseases
	Prescribing
	Pap Smears
	Income Estimator
	Tracking of SIP payments (Diabetes Annual Cycle of Care)

DATA EXTRACTION TOOLS

1. Canning Data Extractor Tool

The Canning division decided to develop its own data extraction capability in early 2005. When the National Primary Care Collaboratives was launched in Australia in late 2005, the NPCC (now called APCC) approached Canning Division with a request to develop a data extraction tool for the Collaboratives project. The tool extracts clinical data for patients with diabetes and coronary heart disease (CHD).

Canning Division now produces a range of tools which are capable of extracting data from a variety of the most commonly used GP desktop software. Including:

- Medical Director 2
- Medical Director 3
- Best Practice
- PractiX
- MedTech32
- Medical Spectrum Classic

The Canning Data Extraction Tool is available free of charge to Townsville practices through the Townsville General Practice Network. The total population de-identified data and chronic condition measures e.g. HbA1c and total cholesterol for diabetes patients is sent to TGPN at the end of every month and a graphed and summarised report is sent back to the practice.

2. TGPN Data Extractor

The software tool developed by TGPN includes the following functionality:

1. Allows the practice to generate a diabetic register
2. Allows the practice to identify undiagnosed patients who have a high likelihood (but not a certainty) of being diabetic based on drugs they have been prescribed or an HbA1c result suggestive of diabetes.
3. Produce graphs on how many patients have measures (HbA1c, BMI, BP, cholesterol, ACR) within the normal range over the last 12 months
4. Extract data on processes, specifically use of EPC items for GP Management Plans, Team Care Arrangements and Diabetes Cycle of Care and HMRs.
5. Extract data as Excel spreadsheets that can be used by the practice and also emailed to TGPN. This is core data on HbA1c, BMI, BP, cholesterol, ACR, use of EPC item numbers. This information will be used by TGPN to produce reports that can then be used by the practice to inform decision making in relation to changes (if required) to current systems regarding diabetes.

This data extractor is compatible with:

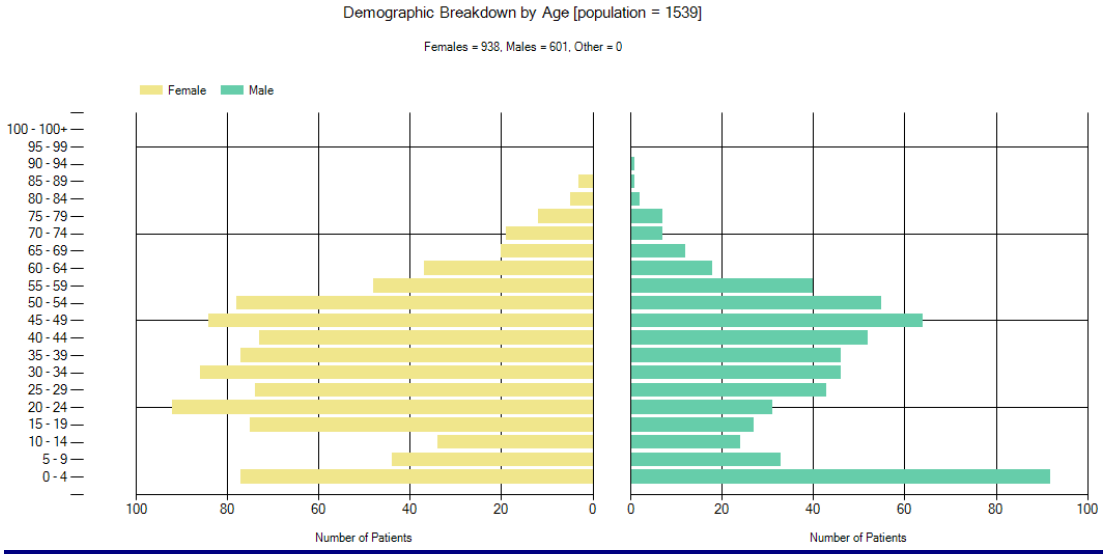
- Medical Director 3
- Practix

3. PEN Clinical Audit Tool

The CAT can assist practice staff to assess the quality and completeness of patient information, and therefore practice population information, while highlighting opportunities to increase income from Practice Incentive Payments (PIPs). CAT is not just a reporting system. It is a clinical information system that allows the GP and practice staff to target patients with particular needs or those with specific health risk profiles.

CAT will support the requirements of divisional initiatives such as the Australian Primary Care Collaboratives (APCC) and the National Performance Indicators (NPIs).
This data extractor is compatible with:

- Medical Director 3
- Medical Director 2
- Genie
- Best Practice



4. Doctor's Control Panel

The DCP uses a set of configurable rules to determine whether prompts are shown and uses information in the database to determine status. The DCP also allows printing of 'data collection sheets' and 'Action lists' for the day's appointments. This allows staff to implement the data collection, which the doctor can simply enter into software at consultation. The DCP also creates reports on basic statistics.

The benefits of using the Doctor's Control Panel include:

- Improved coherence with Red Book Guidelines particularly BP, Height, Weight and Waist Measurement
- Encourages the practice to utilize electronic recording of measurements within the clinical software
- Increased utilization of preventative care MBS items and thus increased billings of these items

Figure 1. Screen Shot of the DCP popup panel which appears above the tray area of the desktop. Shows some of the range of prompts available. Headings are blue; items are coloured red if not done, yellow if overdue for repeating and green if up to date. Prompts are tailored to the individual patient.

DCP is compatible with Medical Director 3 only and is free to download from *http://www.pracsoftutilities.com*

Websites

Quality in Practice - AGPAL	http://www.qip.com.au/

Information Management

Canning Data Extraction Tool	http://www.canningdivision.com.au/dataextraction.html
Pen Computer Systems	http://www.pencs.com.au/default.asp

PATHOLOGY RESULTS IN PRACTICE MANAGEMENT SOFTWARE

Pathology Download Format:

The extraction tool will only find pathology results that are embedded in the patient record. Electronic transfer of results comes in two different formats .pit and HL7.
To ensure the appropriate blood test results are in a suitable format for extraction, please request from all pathology providers, that your tests are being downloaded in ***HL7 format***. This will ensure they are included on your register and in the measures.
In the Diabetes Record, if you have HL7 downloaded results you will notice the values for cholesterol, HbA1c and microalbumin are already populated.

You can also request from your pathology provider/s that they re-download cholesterol and HbA1c results for the last 12 months.
This could be done for 2 reasons:

- To ensure you register contains the most up-to-date patient information as possible so you may easily identify who has blood test results missing
- To identify any patients who have had the requested tests but were not coded as having Diabetes, nor prescribed medication, and therefore excluded from the register

HL7 - What is it and why it matters?

HL7 is a messaging protocol. It is used to transfer messages and test results between pathology labs, doctors and hospitals. The reason HL7 is a desirable format for this sort of data exchange is that it has the capacity to “atomise” data into discrete pieces. Software can then be instructed to handle these pieces intelligently.

The most useful example of this for GPs lays in the treatment of incoming pathology test results. If they are delivered in HL7 format and they contain numerical results, the numerical data can be copied to the fields in the database where they belong. This saves time and drastically improves chronic disease management. Pathology labs have the capacity to deliver HL7 results now, but often need to be asked to make the change from the older PIT format to HL7. They do not charge for this change over.

Practices who believe they are receiving data in HL7 format already can verify it by checking that recently processed results have been transferred to the correct database fields. E.g. is a recent HbA1C result visible in the HbA1c field in the clinical software?

While HL7 works with HbA1c and cholesterol, it does not work with Pap smear data. An additional step needs to undertaken in practices so that Pap smear data is picked up by any data extraction tool. The result shown in the pathology report needs to be individually transferred to the Pap smear fields.

CODING IN PRACTICE MANAGEMENT SOFTWARE

After creating your chronic condition register you will need to validate it (make sure it is accurate) and keep it that way. The following activities are some ways of validating your register:

1. Inactivating patients

Information that is no longer relevant should be archived, otherwise it clutters up your system and sustainable improvements will be very difficult to achieve. The practice's register of patients should therefore be kept current.

Until recently, most clinical packages did not allow practices to **bulk archive** their patients. This meant that data cleaning was a more labour intensive process than really necessary. At least three clinical packages (MD3, Best Practice and PractiX) now allow bulk archiving of patients.

This means that the practice can decide on a certain rule (e.g. inactivate all patients who have not visited the practice in the last two years) and inactivate their patients accordingly.

2. Decide what constitutes a 'regular' patient

Before proceeding, please decide collectively as a practice what constitutes a 'REGULAR' patient. In many cases, this will be 2 or 3 years, as an example. This decision lies with the practice.

How to inactivate or mark a patient as deceased:

This applies to:

- Deceased patients
- Patients who have left practice
- Inactive patients
- Visitors to the practice/transient patients

IMPORTANT Please ensure all staff are informed and trained in the correct process for identifying and inactivating all of the above. This will ensure your database remains current.

Use your Diabetes and CHD Data lists (from the extraction tool if you have one) to go down the list of patients on the register. There will be patients on the register who may not have attended for the timeframe you have identified as outside the definition of a 'REGULAR' patient. These will need to be inactivated in your system.

The practice should make it a priority and have a system in place to actively cull records. All Staff at the practice may be involved in this process of verification.

3. Decide on uniform codes to be used for Diabetes & CHD (and then other chronic conditions)

Problems can exist with disease coding when the incorrect code is used (GPs free typing own codes instead of using the software code).

It is important to have a staff meeting involving all doctors and nurses and decide what codes are to be used for which conditions. For the patient to be included in the register, they must have a coded diagnosis in Past Medical History.

For example:

- Diabetes Mellitus Type 1 and Diabetes Mellitus Type 2
- . IHD
- Please ensure all myocardial infarctions are coded with a **diagnosis date**

'Uncoded' or 'free-texting' of diagnoses is problematic with establishing and maintaining a register as your system will be less efficient and accurate than it should be. All Doctors should use these uniform codes routinely. Any additional information can be entered into 'comment' section directly under the diagnosis component.

4 .Perform database search on all diagnoses for Diabetes & CHD (and then other chronic conditions)

Diabetes

The reason for doing these searches on your clinical software is to verify that all your patients with diabetes are found. This ensures that they are included in your Diabetes Register from the extraction tool. You may also want to add a date range to your search e.g. seen within the last 2 years.

Perform database search on all diagnoses for Diabetes & CHD	
Diabetes	**Coronary Heart Disease**
IDDM	Coronary Heart Disease
Diabetes Mellitus – Type 2	Myocardial infarction
Diabetes	Angina
Diabetes – controlled	Angioplasty
Diabetes – unstable	Ischaemic Heart Disease
Diabetes with Vascular Changes	CABG
Diabetic Endarteritis	
Diabetic Peripheral Vascular Disease	

To streamline the identification and cross-checking process, please ensure (if software permits), you enter a **date restriction** when database searching. This will provide a more current list of patients who have attended the surgery. It may also include deceased patients, visitors and patients who have moved on – these patients will need to be identified and inactivated.

Coronary Heart Disease (CHD)

A data extraction tool will identify all patients in your clinical software who have a coded diagnosis of the above list. It will not find patients who DO NOT have one of these diagnoses coded. The reason for doing these searches on your clinical software is to verify that all your patients with CHD are found. This ensures that they are included in your CHD data listing from the extraction tool.

The easiest way to find this group of patients collectively is to assign all patients with one of the above diagnoses with an “umbrella” diagnosis of **Ischaemic Heart Disease (IHD)** in the past medical history if your software doesn’t have ICPC coding already. This will assist you to quickly identify these patients in the future when you are trying to search for specific items relating to your CHD patients.

5. Perform database search for all drug classes

Conduct searches in your clinical software to search for all patients with an uncoded diagnosis of diabetes and CHD (and then other chronic conditions)

Commonly used drug classes in Diabetes and CHD	
Diabetes	**CHD**
Metformin*	Atorvastatin
Glibenclamide	Fluvastatin
Glimepride	Pravastatin
Gliclazide	Simvastatin
Glyade	Asasantin
Glipizide	Vytorin
Repaglinide	Or search HMG-co-A reductase inhibitors for all statins
Acarbose	
Pioglitazone	
Rosiglitazone	
Insulin	

(Refer extraction tool (if you have one) 'settings' for comprehensive list)

*Please note that Metformin will also identify patients with Gestational Diabetes and Polycystic Ovarian Syndrome (PCOS). Please exclude these patients for a Diabetes register.
Alternatively, you can search for:

- Anti-diabetic agents
- Hypoglycaemic agents
- Insulin

Searching for individual diabetic drugs is not necessary in Medical Director. MD has the capacity to search for a "class" of drug.

Coronary Heart Disease (CHD).

This will find all people prescribed this medication, which do NOT have a coded diagnosis of IHD. A GP will need to go through the list and identify those patients who should be on the CHD register (not all people identified in this search will have CHD).

- Add the primary diagnosis (Angina, MI, Angioplasty, and CABG) and also add IHD to the past history and include the year of primary diagnosis.

Alternatively, you can search for:

- Antiangina
- Antihypertensives
- Lipid reducing agents

Recording Data in my Practice Management Software

Where should I put my data in my practice management software?
Data should be entered in the appropriate places to be counted by the data extraction tool:

Recording Data in my Practice Management Software	
Blood Pressure	Enter in BP field (no free texting)
Medications	Prescriptions
HbA1c	Diabetes Record (HL7 pathology download format will assist with this)
Total Cholesterol	Diabetes Record (HL7 pathology download format will assist with this)

Ensure doctors are familiar with recording within other areas of software:

- Blood pressure
- Weight
- Diabetes Record

If your register is missing blood pressure values, there are 2 likely situations:

- The GP has not been recording the blood pressures correctly in your software i.e. they are entering BP into progress notes instead of the BP icon. A BP cannot be extracted unless it is entered into the BP field
- The patient may not have had a BP recorded in the last 12 months and this would therefore need to be reviewed in line with the Annual cycle of Care requirements for diabetes patients.

Several actions can be taken to target/improve this area:
Discuss with all GP's and Nurses the importance of entering blood pressures into correct field.
Consider conducting a random 'audit' of patients seen over a weekly period to ensure all BP's are being recorded correctly. Advise GP's of intention, to arouse some competition and subsequently gain compliance
Enter a reminder into clinical software for GP to record BP in the appropriate area

Other action to take to validate a register

1. Pathology test lists and downloading

There may still be a gap in your register, of patients who have not been correctly coded and who may not be using diabetic drugs. This will identify the patients with diabetes who are diet controlled and have no coded diagnosis.

- It is recommended you contact your pathology company and ask them to send you a list of the last HbA1cs requested by your GPs over the last year.
- Once you have this list, you can cross check the names provided by the pathology company with the names identified by the extraction tool/register.
- Identify those not on the extraction tool/register list but on the pathology list and check the individual's medical record to determine whether the patient has diabetes.
- Add you're agreed upon coding e.g. "Diabetes Mellitus – Type 1" or "Diabetes Mellitus – Type 2" as appropriate, to the past history of the patient record.

2. Utilising Action Lists

Uses for action list:

- Flagging patients annual cycle of care progress
- GPMP/ TCA eligibility, reviews due
- Flag to check aspirin or statin status
- Reminder for GP's to continue to code

Identifying patients who do not appear to be on aspirin & record

- Identify patients from your register who do not appear to be taking aspirin e.g. see latest extraction tool CHD Data for patients 'not recorded' as being on aspirin
- Add an **action** or comment or enter into **warnings** in patient's file in clinical software for GP to check for compliance
- Alternatively, the RN or PM can review each identified patient's file and where no evidence of aspirin or warfarin, plavix etc, enter reminder for GP to check status and record

The Chronic Condition Management support officer at the Townsville General Practice Network can assist with correct coding of information and creating, validation and maintaining chronic condition registers.

RECALLS

Recall and review

Effective recall and review has three key benefits. It will:

- Support quality patient care in chronic condition management
- Achieve the best financial outcome for the practice
- Meet the requirements of clinical guidelines and annual cycles of care

There is no right or wrong way to set-up a recall and review system. Each practice will need to determine the system that is right for them. A computerized system is ideal, but recall and review can work equally well in paper diaries or exercise books.

"In one practice the Clinic nurse sets a follow up or review appointment with the patient before they leave the clinic. The appointment gets entered into our GP clinical software so it is not lost, and Reception staff telephone the patient a week before their next appointment, to remind them and confirm their attendance. If the patient cannot attend a scheduled appointment, we reschedule the appointment while we have them on the telephone.

No patient leaves without an appointment being made!"

"The only real recall and review system we had in our practice was for Pap Smears. So we just mirrored that system for the Diabetes Clinic. It works well, as long as the nurse determines when the next appointment is required before the patient leaves, and Reception rebooks cancelled appointments."

For both effective care and financial reasons Chronic Condition Management needs a robust recall and review system. As many practices do have effective recall and review systems, it is important to ensure the existing system is redeveloped to support Chronic Condition Management or where systems do not exist they are developed.

The GP Management Plan and Team Care Arrangements have regular reviews built in (and specific timelines for completion), and an effective system will enable the practice to book patients in for these review appointments and send reminder letters when appointments draw near.

Setting up a Recall or Reminder system

1	Agree the purpose of the system	Consider if the system is a recall or reminder and what patients are to be targeted
2	Map the workflow of the system	Work out the sequential steps of your system
3	Appoint a staff member to be accountable for operating the system	Who is responsible for generating the list of patients due for recall / reminder? Who contacts patient? All doctors / clinical staff should know how to enter recalls into the system. Administration / nursing staff should know how to generate recall / reminder lists and letters as appropriate to their role
4	Decide on the method and resources required for the system	Methods could include: Post cards, Letters, Phone calls, Emails, Birthday cards, Mail outs, Opportunistic, SMS Letter templates can be set up in the practice clinical software. Use words and terms that are understandable for the patient
5	Determine timing and schedule of activities	How often will the recall / reminder be prompted? How often will they be checked against appointments made, results received etc? Staff should be able to dedicate set time on a regular basis to action and review recalls and reminders.
6	Agree on benchmarks for performance	The system should be reviewed for success at set intervals. How many appointments are being generated through reminders?

What constitutes a good system?

↓↑	Reminder and recall system have two elements: A. Recall or Remind– the system to recall the patient for an abnormal test result or to remind the patient to attend the practice B. Tracking – the system to track that the patient has attended the appointment or (for tests and referrals) to track when the results come in and that patient has been notified.
☺	The whole general practice team has a role in making sure recall/reminder systems are working effectively. • Clinical – GP makes the decision to recall the patient • Administrative – practice staff track and generate recall All staff members should understand their role (who generates list, who contacts patient, who notifies GP when initial attempts not successful). Staff needs to have dedicated time to this function.
💻	Clinical information systems • Make sure the patient database is accurate and maintained (data cleansing). • Make sure the right people know how to enter the recall/reminder. • Understand the limitations of your clinical information system – how reliable is it? What is the fall back system? • Use Templates – make sure letters are easy to understand for patients • Are there safeguards in the system to ensure people don't get lost - flexibility to deal with a variety of circumstances
⌛	Timeliness • How often will reminders/recalls be sent? What is the appropriate timeframe between contacts? • How often will they be checked against appointments made?
📂	Effective administration • Make sure the recall/reminder is direct and detailed • Make sure your patient databases are accurate (patient contact details, active patients)
☑	Ability to analyze the system • How do you know if your system is effective? • How effective / consistent is record keeping (in patient's health record)? • Find out why patients are not responding (changed addresses, no longer attend your practice, personal circumstance)?
☎ ☎ ☎	Recall systems should make sure all attempts to contact a patient are documented in the patient's record. Following up the patient should involve • Telephoning at different times of day and on different days (3 phone calls) • Letters • Registered mail is advised if having difficulty contacting patient • If patient does not attend, doctor should be notified and advice sought from Medical Defense Organisation The recall is not complete until the specific matter is discussed with the patient by the doctor. Decide on how many contacts are made for preventive reminders (e.g. immunizations, pap smears due) and include in a practice policy. Multiple reminders are more effective.

TEMPLATES

Templates

Effective operation of chronic condition management can also be supported by a set of templates, within each system, in particular templates for:

- Communicating with patients such as letters for welcoming them to the clinic, or reminding patients that a review appointment is due
- Communicating with health professionals and specialists such as referrals for Allied Health appointments or engagement in TCAs
- GP Management Plans and Team Care Arrangements
- Other health checks

"All GPs use different approaches to their chronic condition management. We needed to decide on common templates and frequency of CCM client visits. The CCM nurse will need to oversee the management of this".

Judy Hill Practice Nurse Kirwan Family Practice

Websites

Templates

Monash Division Templates	http://www.monashdivision.com.au/resources/templates.htm#electronic
RACGP Care Planning Templates	http://www.racgp.org.au/clinicalresources/templates
North East Valley of General Practice - IT Resources	http://www.nevdgp.org.au/index.php?content=14#CheatSheets

Chronic Disease Management Information

Chronic Disease Management	http://www.healthinsite.gov.au/topics/Chronic_Disease_Management
Lifestyle Medicine Australia	http://www.lifestylemedicine.net.au/
Heart Foundation	http://www.heartfoundation.org.au/Professional_Information/General_Practice/Pages/default.aspx
Systematic Review of Chronic Disease Management	http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf
Chronic Disease Prevention and Management	http://www.agpn.com.au/site/index.cfm?display=333
RACGP	http://www.racgp.org.au/sitemap
Diabetes Australia Queensland	http://www.diabetesqld.org.au/index1.php?ref=MTUxMw==
National Diabetes Education Program	http://ndep.nih.gov/

Centre for Disease Control and Prevention – Chronic Disease	http://www.cdc.gov/NCCdphp/overview.htm
National Diabetes Services Scheme	http://www.ndss.com.au/Australian-Diabetes-Map/Map/
TGPN - Diabetes	http://www.tgpn.com.au/diabetes.shtml
Medicare Australia – Information for Health Professionals	http://www.medicareaustralia.gov.au/provider/business/education/
QLD HbA1C Map	http://www.glycomate.com/changingdiabetes/QLD/QLD-Map%20Composite.html#
Australia's Healthy Weight Week	http://www.healthyweightweek.com.au/index.asp?pageID=2145857395
RACGP Guidelines – Red Book	http://www.racgp.org.au/redbook
RACGP Guidelines – Green Book	http://www.racgp.org.au/guidelines/greenbook
SNAP: a population health guide to behavioural risk factors in general practice	http://www.racgp.org.au/guidelines/snap
Lifescripts	http://www.health.gov.au/lifescripts