



Data Cleaning to Improve Data Quality

The Primary Care Services Improvement Project (PCSIP)

Data cleaning involves making sure the information a GP has entered into a patient's medical record is stored in a way that will allow the record to be searched. It is about improving the quality of the information you have for each of your patients. This is an optional process and is therefore up to your Practice decide whether you wish to participate in this process. Cleaning will be conducted by an experienced researcher, Jodi Gray, who has been seconded to the Adelaide Northern Division of General Practice (ANDGP) and is therefore bound by the appropriate privacy agreements. Data cleaning procedures have been developed in consultation with the Information Technology Support Staff at the ANDGP.

This document describes the cleaning of electronic patient records using Medical Director (MD). The procedures can be adapted for use with other clinical desktop software.

How Is Data Cleaning Useful?

The cleaning of Practice records is a valuable service. It can improve searches (in both MD and Pen Computer Systems Clinical Audit Tool (CAT)) to identify patients with particular conditions and thus to target management activities. For example, being able to easily identify patients with diabetes can assist in the maintenance of a diabetes register, enabling the implementation of a reminder/recall system and enhancing diabetes management. It can also improve the ease of using MD templates (MD automatically enters data from the patient record onto the template), creating patient summaries and indicating drug-disease interactions during prescribing.

When Is Data Cleaning Useful?

A patient's condition may be entered into MD by

- clicking the 'Reason' button on the Progress Notes page and selecting the appropriate condition from a drop down list ('coded')
- clicking the 'Reason' button on the Progress Notes page and typing in your own "free text" term
- or by "free text" typing directly onto the Progress Notes page.

When patient searches are done within MD (or with the CAT) only coded diagnoses are recognised. The aim of data cleaning is to identify patients with a "free text" diagnosis and to update it to a coded diagnosis, thus ensuring these patients will be identified when searching your patient records.

Patients BMI can be entered into MD by "free text" typing directly into the Progress Notes page or using the Weight Calculator. When height and weight are entered into the Weight Calculator, MD will automatically calculate BMI and this field is able to be searched by the CAT.

If your GPs always enter the patient diagnosis using the Reason button and drop down list, and enter height and weight into the Weight Calculator, data cleaning will not offer much benefit to your Practice.

Data Cleaning for the Primary Care Services Improvement Project (PCSIP)

Data cleaning for the PCSIP will focus on identifying patients diagnosed with

- type 2 diabetes who have not been coded as having the condition.
- depression who have not been coded as having the condition.



- ineligible conditions who have not been coded with these conditions (e.g. dementia).

It will also ensure that height and weight information are entered into the Weight Calculator (the Weight Calculator calculates BMI and is referenced by the CAT).

Consultation With Practice Staff

Research staff will consult with Practice staff to understand the Practice's requirements and preferences for data cleaning. Taking into account the software your Practice uses, the way your GPs enter data into patient medical records and the concerns of your Practice we can discuss the options most suitable for your situation. It will then be up to you to decide if you wish to go ahead with the process.

Data Cleaning Options

(1) HCN Maintenance Diagnosis Coder

The Diagnosis Coder is part of the HCN Maintenance tools which are installed with MD. It is able to search all patient records and create a list of the uncoded entries listed in the Past Medical History (PMH) of any patient (this occurs when the GP has clicked the Reason button and entered a free text description). The items on this list can then be manually linked to a coded entry. For example, if a GP has entered "diab" this term can be linked to the "diabetes" coded entry and the patient will then show up in any searches for diabetic patients.

The list generated by the Diagnosis Coder does not show any patient details.

(2) Searching Within Medical Director

Research staff can run multiple searches of the patient list in MD, to attempt to identify patients with uncoded diabetes, depression or dementia (one of our exclusion criteria). These searches will generate a list of patients who may have the condition. Research staff or Practice staff (depending on the Practice preference) will need to open each patients record and look through the PMH and Progress Notes to determine if the condition has been entered by the GP without being coded. If the condition is located, the patient record can be updated to display the condition as a coded diagnosis.

The searches will aim to identify patients

- with "undefined diabetes" (to enable the type of diabetes to be specified).
- receiving diabetic care (e.g. diabetes foot care) without a coded diagnosis of diabetes.
- with coded conditions such as "obesity" or "weight excess" (to check whether height and weight have been entered into the Weight Calculator).

They will also identify those who are currently taking

- anti-diabetic agents without a coded diagnosis of diabetes.
- anti-depressants without a coded diagnosis of depression or anxiety.
- anti-dementia medications without a coded diagnosis of dementia.

(3) Manual Cleaning Of Patient Records.

Research staff can search MD to generate a list of all active patients (seen in the last 12 months) between the ages of 18 to 75 years, excluding patients who do not meet our eligibility criteria (bipolar, schizophrenic, currently on anti-psychotics, or having dementia) and are already coded as having diabetes or depression. Research staff can then manually view each patient record, checking the Progress Notes and Past Medical History for uncoded conditions, as well as height and weight measures. When found these details can be updated to coded entries or entered into the Weight Calculator as appropriate.



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