CONTINUITY AUDIT PROTOCOL

GENERAL

The aim is to work out the level of **continuity of care** provided at all consultations **with a GP** over the previous **two years.** *It is necessary to collect data about two years, as shorter periods do not provide a stable estimate of continuity.*

- To use the 'Continuity Calculator', your computer must have **macros enabled** for Excel.[1]

- Download the Continuity Calculator from the website:
  http://www.bristol.ac.uk/primaryhealthcare/resources/continuityaudit/index.html

- This is a large spreadsheet and may take a minute or two to load and to do calculations

WHAT COUNTS AS A CONSULTATION?

Include:

- all face to face consultations with GPs, including surgery consultations, clinic consultations, or home visits.

- This includes consultations with registrars, F2 doctors, assistants, locums etc.

- telephone consultations with the above medical staff

Do not include:

- consultations with practice nurses, midwives, health visitors, counsellors etc.

- 'out of hours' consultations, details of other consultations outside the practice (e.g. A&E, outpatients etc.)

- messages, administrative notes, scanned letters, notes between doctors, lab results and other miscellaneous things which appear on consultation screens but are not consultations

ENTERING DATA

You need to enter data about patient's consultations on the Continuity Calculator spreadsheet, on the 'Data' tab.

You can do this either by:

- Downloading data about consultations from Emis Web, if you have this system. See Appendix 1.

- Downloading data consultations from other GP computer systems. We cannot provide detailed instructions, but general principles are given in Appendix 2

- Entering details of consultations manually, using the records of a sample of patients. See Appendix 3.

Whichever approach you use, please see the 'example data' tab on the Continuity Calculator Excel spreadsheet to see what the completed data sheet should look like.

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[1] How to enable macros varies for different versions of Excel. Usually, if you just try to open the continuity calculator as usual, your computer will prompt you to click a button to enable macros. Otherwise, use 'help'.

SHOWING RESULTS

Save the completed 'Continuity Calculator' spreadsheet with a new name using 'File, Save as', so that you save all your data.

On the Excel spreadsheet, click the 'View Results' button near the top of the 'Data' spreadsheet.

This takes you to the 'Results' spreadsheet. *NB - It may take a minute or two to do the calculations, please wait!*

Click the 'View Data' button to go back to the 'Data' spreadsheet.

INTERPRETING RESULTS

The results show:

- The Usual Provider Continuity (UPC) index is the proportion of consultations which were with the GP that the patient saw most often. This figure is calculated for each patient, and then averaged across all the patients in your audit.

- The UPC is widely used but it can give a misleadingly positive impression. For example, many patients have just one consultation in two years, and they inevitably have a UPC score of 100%, so these patients push up the average. Also a patient who consults once or twice in two years contributes as much to the score as someone who consults 20 or 30 times. There are two other statistics which are less commonly used but may be more meaningful:

- The Provider Continuity score considers all of the consultations in your practice over the two years, and calculates the % of all consultations that were with the patients 'usual' GP i.e. the GP that the patient saw most often in the two years. So if the Provider Continuity Score is 50%, that means that 50% of all consultations in the practice were with the patients 'usual' doctor.

- The mean number of different doctors seen in two years by the average patient is also a useful measure, especially when compared with the average consultation rate in patients who had at least one consultation. This might show, for example, that the average consulting patient had 4 consultations but saw 3 different doctors, which would suggest low continuity.

The Results sheet also shows:

- the number of patients on whom you have entered data, and the number who had at least one consultation over the two year period.

- the mean consultation rate per annum. This will probably be between 3 and 4 if you have entered data correctly. The national average GP consultation rate was 3.3 in 2006. NB You may be aware that the national average general practice consultation rate is 5.3, but this includes consultations with practice nurses as well as GPs.[1]

- the mean consultation rate per annum in those patients who had at least one consultation. This can be compared with the mean number of different doctors each patient has seen in the last two years.

- Please consider sending us your results. This will help us to collect data on levels of continuity in different practices. In due course we will be able to estimate the average level of continuity in general practices, and how this varies in different settings e.g. in relation to practice list size. This will help practices to interpret their own results.

- We guarantee that any information you send us will be held securely at the University of Bristol, will not be shared with anyone else except in an anonymised form aggregated with results from other practices, and it will not be possible to identify your practice individually in any analyses that we publish.

- If you are willing, please click the 'share results' button on the Results sheet. This will ask you for your practice code. The practice code usually has a letter and 5 numbers (e.g. L51099). After you enter this the system will save a copy of the results sheet into a new spreadsheet labeled 'Continuity Results.xls'. This file does not contain any of your patient data, it just shows the overall results.

- The 'Continuity Results.xls' file will be saved in the same directory as the Continuity Calculator spreadsheet.

- Please email it to: **sscm-continuity@bristol.ac.uk**

Thank you

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1. Hippisley-Cox J.Trends in Consultation Rates in General Practice 1995 to 2007: Analysis of the QRESEARCH database.

You can download details of consultations from Emis Web. Following the instructions below will extract consultation details from a 1 in 6 sample of your registered patients. *(We do not want to download all of the practice's patients as this would be too many for the Audit Calculator spreadsheet to cope with).*

IMPORT THE ENQUIRY DOCUMENT

Download the '**Search Template for EMIS web for consultation data'** from the Centre for Academic Primary Care Bristol website at:
http://www.bristol.ac.uk/primaryhealthcare/resources/continuityaudit/index.html

- right click where indicated and *'save link as'* or *'save target as'* to save the file: 'emiscontinuityaudit.xml' in 'My Documents'

In EMIS Web go to the EMIS button in the top left-hand corner, then Reporting → Population Reporting

Add (green button, top of screen) → new folder (create a new folder called 'continuity')

Click in this new folder 'continuity' → Import (button near the top of the screen).

Enquiry document: to choose the 'enquiry document', click the top box with three dots just below the top right of the screen (see screenshot below). Choose the document 'emiscontinuity audit.xml' from the My Documents folder.

Destination folder: for the 'destination folder' line choose the 'continuity' folder. Press 'OK' and the continuity audit will appear in your population reporting screen.
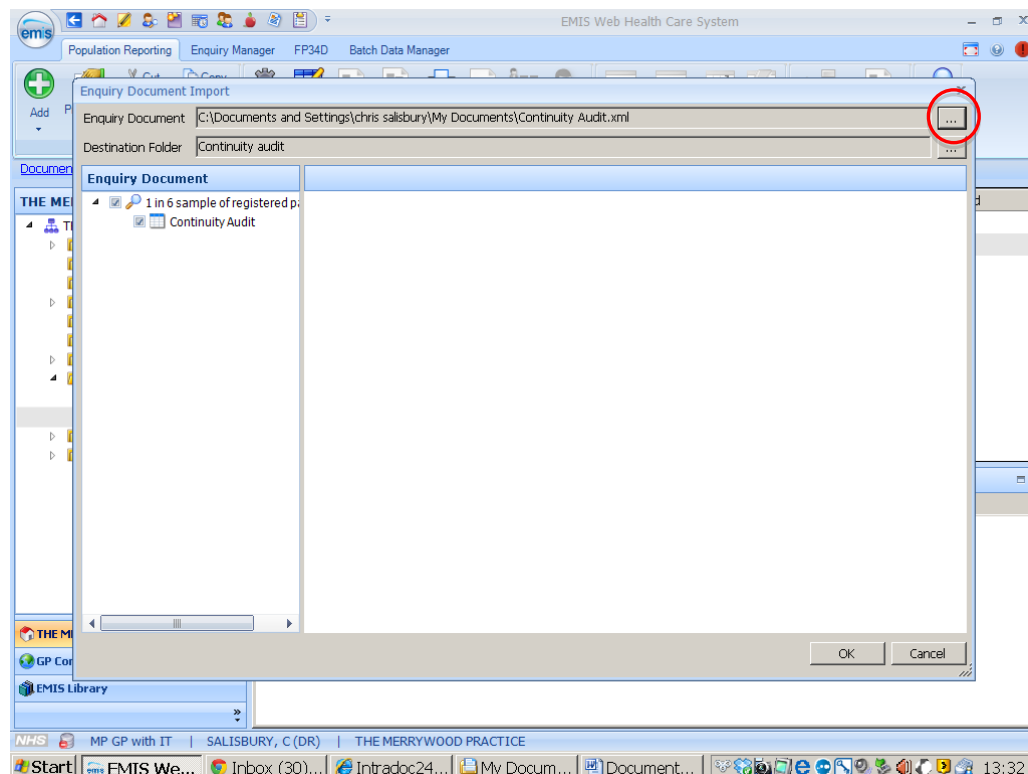
RUN THE AUDIT

Highlight the second line (with a square box and headed 'continuity audit') and click 'Run'.
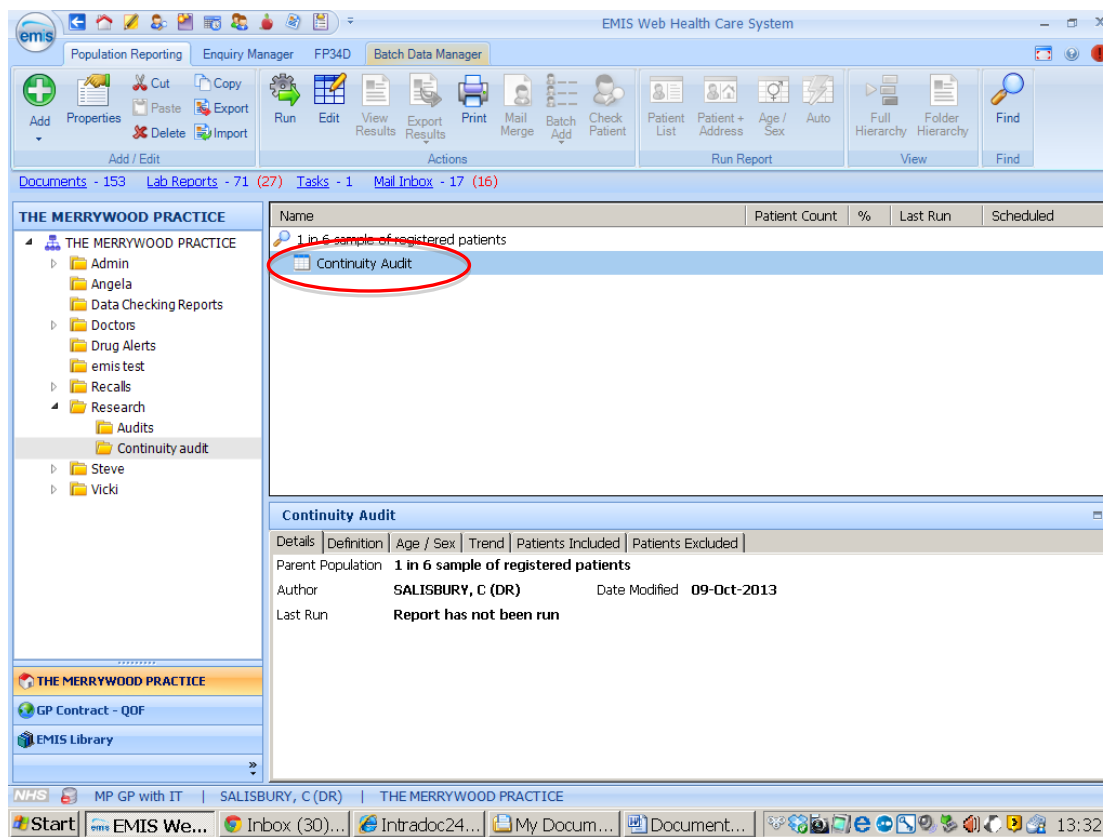
The audit will take a few minutes to run. The patient count will indicate when it has finished. The patient count should represent about one-sixth of your registered patient population.

VIEW RESULTS

Highlight 'continuity audit' in the main screen and click 'view results'. This screen should show the details of the consultation at the top and then a table with a list of patient numbers and doctors' surnames along with the date and type of consultation. See example below.

Check that this all makes sense, and in particular that the user details' surnames (second column) only include doctors, and that the type of consultation (fourth column) includes the terms that you normally use for GP face to face and telephone consultations.[2]

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[2] If you have made your own specially created names for different types of consultations, and these are GP face to face or telephone consultations, you would have to go into the details of the continuity audit and edit it to include different types of consultations.

EXPORT RESULTS AND PASTE INTO THE CONTINUITY CALCULATOR

Click 'Export',

Choose Excel as the export format

Click the boxes to 'exclude report header', and to 'replicate patient details for each item'

then press 'OK'.

Save the file 'continuity audit' as an Excel file in your 'My Documents' folder. This is a large file so it may take a few minutes to save.

Go into your 'My Documents' folder.

Open the Excel file 'continuity audit'. Select cells A2 and B2 and all the way down the two left column to include all of the patients. There will probably be something between 5,000 and 20,000 lines of data. (in other words, you don't want to include the headings at the top or the extra details of the date and type of consultation in columns C and D)

Copy and paste this into the 'Continuity Calculator spreadsheet, on the Data tab.[3]

IF YOU MAKE A MISTAKE AND NEED TO RE-ENTER DATA INTO THE CONTINUITY CALCULATOR

NB If you make a mistake and need to clear and re-enter data into the Continuity Calculator spreadsheet, select the data your want to remove, right click and 'clear contents'. Or you can over-write it with new data or re-open the continuity calculator from scratch. But do not 'cut' or 'delete' the data from the continuity calculator or it will generate errors.

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[3] You can only paste into the yellow shaded cells. If you get the error message ' The cell or chart that you are trying to change is protected' you may have tried to paste into a protected cell (e.g. the column headings) or you may be trying to paste data into more than 40,000 rows, which is the maximum capacity of the spreadsheet.

How to download consultation data will vary for different systems, and we cannot give detailed instructions. The aim is to identify a random sample of about 1000 patients who are currently registered, and to download details of all their GP consultations over the previous 2 years. *(Do not try to download all of the practice's patients as this would be too many for the spreadsheet to cope with).*

See the notes on page 1 about what counts as a 'consultation' and who to include as a 'GP'.

Download details of all consultations with GPs, with one row of data for each consultation, so there are likely to be several lines of data for each patient, representing each of their consultations. The data must be in this format:

Patient identifier	GP identifier	*further columns to the right e.g. consultation type; date of consultation. This helps you to check that the search has worked properly*
4378	Smith	
4378	Jones	
5478		(this is an example of a patient without any consultations)
5480	Jones	

Please see the 'Instructions' tab on the Continuity Calculator Excel spreadsheet to see what the completed sheet should look like.

Export the data from the GP computer system to a new spreadsheet and name it 'continuity data'

Copy and paste all of the data from 'continuity data', except the column headings, into the 'data' tab of the Continuity Calculator Excel spreadsheet.[4]

The first two columns are essential and must be an identifier for the patient and an identifier for the doctor for each consultation, with one row of data per consultation. But it can be helpful to include other details into further columns to the right e.g. consultation type; date of consultation. This helps you to check that the search has worked properly, but it is not necessary and it will not affect the operation of the spreadsheet.

Some patients will not have had any consultations, in which case they will have one row of data, with a patient ID in the first column and the second column will be blank.

NB If you make a mistake and need to clear and re-enter data into the Continuity Calculator spreadsheet, select the data your want to remove, right click and 'clear contents'. Or you can over-write it with new data or re-open the continuity calculator from scratch. But do not 'cut' or 'delete' the data from the continuity calculator or it will generate errors.

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We suggest you aim to enter data on a random sample of about 125 patients. The sample needs to be at least this large to obtain a reasonably accurate estimate of continuity.

SELECTING A SAMPLE OF PATIENTS

There are various ways to take a random sample.

Your computer system search function may allow you to pick a random sample of patient IDs.

Or use the table of random numbers on the Continuity Calculator Excel spreadsheet. Enter the highest patient ID and lowest patient ID from your patient record system, and use the table of numbers to select patients randomly.

Do not just select all patients of a certain age, or alphabetically, or in the order in which they registered, as these methods are likely to lead to bias.

You probably need to select at least 125 patients, since some patients will not have had any consultations and you need data from at least 100 patients who *have* consulted in order to calculate continuity with a reasonable level of accuracy.

IDENTIFYING CODES FOR DOCTORS

Make a list of all the GPs who may have worked in your practice over the last two years, including registrars, F2s, locums etc.

Give each doctor a unique initial or set of initials. Make sure you don't use the same initials for two different people. Make sure you use the same initials consistently for the same person.

If you have any generic doctor names in our patient records (e.g. 'locum') try not to use the same initial for each locum consultation, as the system will assume that this is always the same doctor when in reality it probably represents different doctors. So each time you need to enter one of these generic locum consultations, use a different initial ie. L1 for the first consultation, L2 for the second consultation, L3 for the third and so on.

ENTERING DATA

Please see the 'example data' tab on the Continuity Calculator Excel spreadsheet to see what the completed sheet should look like.

Open the Excel spreadsheet, and go to the 'Data' tab

For each patient in your sample, enter the patient ID in the first column and the initials of the GP they consulted in the second column.

After entering the GP initials for the first consultation for a given patient, just press the down arrow and enter the GP initials for the next consultation for that patient. You don't need to keep entering the patient ID repeatedly for the same patient.

When you have finished one patient, enter the patient ID for the next patient in the left column and then enter their consultations, with one row for each consultation.

If the patient has not had any GP consultations in the last year, just enter their consultation ID once in the left hand column and leave the Doctor column blank.

When you have finished entering data, don't forget to save your spreadsheet. Go to 'File', 'Save As', and save the Excel workbook with a new name.

IF YOU MAKE A MISTAKE AND NEED TO RE-ENTER DATA INTO THE CONTINUITY CALCULATOR

NB If you make a mistake and need to clear and re-enter data into the Continuity Calculator spreadsheet, select the data your want to remove, right click and 'clear contents'. Or you can over-write it with new data or re-open the continuity calculator from scratch. But do not 'cut' or 'delete' the data from the continuity calculator or it will generate errors.