improving the quality of primary health care: a training manual for the One21seventy cycle

One21seventy
National Centre for Quality Improvement in Indigenous Primary Health Care

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school of health research

the Lowitja Institute
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Definition: Within this manual, the term 'Indigenous' is used to refer both to Aboriginal people and to Torres Strait Islanders.

foreword

Indigenous health is a pressing social justice issue for Australia. The Australian Government and leading Aboriginal and Torres Strait Islander health organisations have committed to a concerted agenda to achieve Indigenous health equality over a generation, and close the equity gap in service provision by 2018.

There are promising signs that Aboriginal and Torres Strait Islander health status is improving – but good news stories remain relatively rare. The National Centre for Quality Improvement in Indigenous Primary Health Care, One21seventy, is the embodiment of one such good news story.

One21seventy originated in a research project that initially involved just 12 Aboriginal primary health care centres in the Northern Territory. The Audit and Best Practice in Chronic Disease (ABCD) Project, headed by Professor Ross Bailie of the Menzies School of Health Research, introduced a straightforward and sensible way for primary health care centres to better understand and improve the health care provided to Aboriginal and Torres Strait Islander people. It was one of those rare research projects that touch a chord with health centre managers and staff, researchers and policy makers – and it produced results. By the end of the ABCD Extension Project in December 2009, more than 120 health centres across Australia were using the tools developed by the project, with a majority showing consistent improvement in the quality of care provided and in small but significant health indicators. It also influenced the development of a significant new program of funding for Indigenous health: the Healthy for Life Program.

I was fortunate to have a close connection with this exciting project in my former role as the Chief Executive Officer of the Cooperative Research Centre for Aboriginal Health (CRCAH), which funded the ABCD Extension Project. The CRCAH is a collaborative research organisation committed to the use of research to improve Indigenous health. Equally important is its commitment to seeing research findings move beyond the project into practice: to support health care providers to deliver better care, and health policy makers to develop more effective programs and policies.

One21seventy is such an achievement: a vehicle that takes the success of the ABCD Project on into sustainable service delivery. By supporting Indigenous primary health care centres to apply Continuous Quality Improvement (CQI), One21seventy is providing crucial infrastructure in the effort to Close the Gap.

This training manual is therefore much more than just a set of 'how to' instructions. It represents a critical transition in the shift from research to practice, from being reactive to proactive. It is a symbol of the maturity and professionalism of the Indigenous primary health care sector, which has so enthusiastically embraced this CQI approach in its desire to provide the best health care possible for Aboriginal and Torres Strait Islander people. And – above all – the training manual does what it intends to and provides practical, down-to-earth advice to help make CQI work at the local level.

Mick Gooda
Aboriginal and Torres Strait Islander Social Justice Commissioner
February 2009

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acknowledgements

This manual is the product of many people's efforts.

It is based on work carried out by the Audit and Best Practice for Chronic Disease (ABCD) Project from 2002-2009. The project was funded by:

- Australian Health Ministers' Advisory Council (AHMAC)
- The Lowitja Institute (Incorporating the Cooperative Research Centre for Aboriginal Health) under the Australian Government Cooperative Research Centres Program
- Australian Government Department of Health and Ageing.

People on the ABCD Project team who made particular contributions to this manual were the project's Hub Coordinators (Cath Kennedy, Helen Liddle, Rhonda Cox and Ru Kwedza), and the ABCD Project Manager (Jenny Hains). Over a number of years, other team members contributed to the ABCD Project in a variety of ways, and include Lyn O'Donoghue, Marea Fittock, Kat Lonergan, Damin Si, Nikki Clelland, Karen Gardner, Michelle Dowden and Christine Connors. People who made special contributions to the work leading up to the development of the manual include Bev Sibthorpe, Al Harvey, Kostya Demas, Sanchia Shibasaki and Robyn Williams. The ABCD Project team was led by Professor Ross Bailie of Menzies School of Health Research.

Structural and content editing of the manual was done by Jodie Griffin, Jenny Brands and Ross Bailie.

Expert external review was provided by Christine Owen, Quality Assurance and Continuing Professional Development Coordinator, Royal Australian College Of General Practitioners (RACGP); and Alison Laycock, freelance public health writer whose writing credits include 'The Public Health Bush Book' and 'Supporting Indigenous Researchers: A Practical Guide for Supervisors'.

Finally, this manual would not have been possible without the contributions of the many committed and hard-working staff of health centres across Australia who provide care to Indigenous people.

abbreviations

ABCD/ABCDE	Audit and Best Practice for Chronic Disease/Extension
ACIC	Assessment of Chronic Illness Care
ACR	Albumin Creatinine Ratio
AHMAC	Australian Health Ministers' Advisory Council
AHW	Aboriginal Health Worker
AMSANT	Aboriginal Medical Services Alliance of the Northern Territory
BMI	Body mass index
COAD	Asthma or Chronic Obstructive Airways Disease
CQI	Continuous quality improvement
CRCAH	Cooperative Research Centre for Aboriginal Health
FAQ	Frequently Asked Question
HbA1c	Glycated haemoglobin – a clinical indicator of diabetes
HCCS	Health Centre and Community Survey
ICCC	Innovative Care for Chronic Conditions
ID	Identification (number, card)
LORN	Learning Object Repository Network
N/A	Not applicable
NHMRC	National Health and Medical Research Council
OATSIH	Office of Aboriginal and Torres Strait Islander Health
PDSA	Plan, Do, Study, Act
RACGP	Royal Australian College of General Practitioners
SAT	Systems Assessment Tool
SCARF	Support, Collection, Analysis and Reporting Function (support service to health centres involved in the Healthy for Life Program)
SDRF	Service Development and Reporting Framework
WHO	World Health Organization

Section 1: Overview

The purpose of this section is to introduce the One21seventy training manual and explain how to use it.

What's in this section

Section 1: Overview

What is this manual about?

This manual is designed to support the use of tools and processes for continuous quality improvement (CQI) in Indigenous primary health care. It is part of a suite of materials and tools provided by One21seventy, the National Centre for Quality Improvement in Indigenous Primary Health Care. It is specifically designed to support the use of the One21seventy CQI cycle.

Who is this manual for?

This manual will be a useful resource for anyone wanting to gain an understanding of the practical implementation of the One21seventy CQI cycle. However, the primary audience for the manual is those who facilitate or coordinate the One21seventy CQI cycle for individual health centres or regional health services. Facilitators or coordinators might also be external consultants or employed by peak bodies.

CQI is an area of practice that is still developing in Indigenous primary health care. Roles and position titles are changing. Throughout this manual are references to 'regional CQI coordinators' and 'local CQI facilitators'. These terms refer to roles that are carried out, rather than specific position titles. A **'regional CQI coordinator'** is a person whose role is to provide CQI support to a number of health centres. This person may be employed by a cluster, State or Territory health service, or by a peak body such as the Aboriginal Medical Services Alliance of the Northern Territory (AMSANT). A **'local CQI facilitator'** is a person whose role is to provide CQI support to a single health centre. Often this person will have other roles or other titles, such as Chronic Disease Coordinator or Healthy for Life Coordinator. Usually they will be employed at the local health centre.

Whatever the employment arrangements or titles of CQI staff, this manual is designed to assist those facilitating and/or coordinating CQI to extend their skills, knowledge and understanding in the use of the One21seventy cycle and its associated tools and processes.

Sections of this manual may be useful to others who are involved in particular stages of the quality improvement process. For ease of use, these sections are packaged within the manual but can also be used as stand-alone resources. For example, 'Step-by-step: Doing an Audit' in Section 5 can be used by anyone taking part in an audit. These 'Step-by-step' sections are also available as downloads from the 'Resources' section of the One21seventy web-based information system, www.one21seventy.org.au.

Section 2, 'Introduction to One21seventy' may be useful to managers or other staff who want to get an overview of the whole process.

How is the manual used?

The manual should always be used in conjunction with the One21seventy audit tools and protocols. Current versions of the tools and protocols can be downloaded from the One21seventy web-based information system, www.one21seventy.org.au, in the 'Resources' section.

Quality improvement facilitators and coordinators can use this manual in a variety of ways:

- To support practical day-to-day implementation of the One21seventy process. Read the complete manual before starting the process to get a good understanding of how the steps and components of the process fit together. Then, during the quality improvement process, the manual can be used to support and guide each step in the cycle.

- Parts of the manual – the 'Step-by-step' guides - can be used to help explain specific steps to the range of health centre team members who become involved at different points in the quality improvement process.

- The manual should be made available to other members of the team who have a role in supporting the implementation of the One21seventy cycle—for example, health centre managers and clinical leaders (doctors, nurses, health workers). Be aware though that most people have limited time and will not read the whole manual.

The manual is a key component of One21seventy's training resources.

Contact details

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Section 2: Introduction to One21seventy

The purpose of this section is to provide an overview of the One21seventy CQI cycle, tools, resources and services.

What's in this section:

Section 2: Introduction to One21seventy

One21seventy's mission and goals

'One21seventy' is the name of the National Centre for Quality Improvement in Indigenous Primary Health Care.

The name **One21seventy** reflects the centre's commitment to increasing life expectancy for Indigenous people beyond **One** year in infancy, **21** years in youth, and **seventy** years across the lifespan.

One21seventy aims to improve the quality of clinical care in primary health care centres through provision of a comprehensive and systematic approach to continuous quality improvement (CQI).

One21seventy's mission is:

To foster high-quality primary health care and better health outcomes for Aboriginal and Torres Strait Islander people throughout Australia through support for CQI in everyday primary health care practice.

The goals of One21seventy are:

- to strengthen the CQI capability of the Indigenous primary health care workforce
- to ensure sustainability in CQI structures and processes within Indigenous primary health care
- to produce and deliver evidence-based products and services that are timely, relevant, responsive and respected for their integrity and quality
- to be a national leader in Indigenous primary health care CQI knowledge production and translation.

One21seventy is a not-for-profit entity administered through the Menzies School of Health Research. One21seventy has a small team of staff with expertise in Indigenous primary health care, CQI processes, training and information technology to support CQI. Information about One21seventy can be found at www.one21seventy.org.au, under the 'About Us' menu on the homepage.

For more information about the origins of One21seventy in the highly successful Audit and Best Practice in Chronic Disease (ABCD) Project, see **Background to One21seventy: The ABCD Project** (next page).

One21seventy applies strict confidentiality and privacy rules to the handling of all health centre data, in accordance with the National Aboriginal and Torres Strait Islander Health Data Principles. (See section on 'Data ownership and management' for more detail, page 16)

Background to One21seventy: The ABCD Project

The One21seventy CQI cycle was developed in the Audit and Best Practice for Chronic Disease (ABCD) research project. One21seventy itself carries on the work of the ABCD Project in supporting the use of continuous quality improvement (CQI) in Indigenous primary health care.

The ABCD Project began in 2002, became the ABCD Extension Project (ABCDE) in 2004 and ended in 2009. It was a CQI project to improve health outcomes by assisting health centres to improve their systems for delivery of best practice care. It used an action-research approach to work with health centre staff to identify strengths and weaknesses in their systems, set goals for improvement, develop strategies to achieve these goals, and assess the effectiveness of these strategies in improving chronic illness care. It initially involved three cycles of assessment, feedback, planning and implementation in 12 health centres in the Top End of the Northern Territory; by 2009, 120 health centres around Australia were using ABCD tools and processes.

The ABCD/E Project demonstrated that a CQI model could be both attractive to, and effective in supporting, Indigenous primary health care centres to use evidence-based good practice in chronic illness care.

Initial analysis of data about health centre performance over time shows that the majority of health centres in the project improved their performance in relation to most indicators. Some health centres have made extraordinary improvements, and most have made ongoing gradual improvements.

The ABCD/E Project has also influenced national, State and Territory policy and programs in relation to Indigenous primary health care. The development of the Healthy for Life Program was influenced by the ABCD/E Project, and uses many of the ABCD tools and resources. CQI is being incorporated into core Indigenous health programs in a number of States and Territories.

The Lowitja Institute (CRCAH), which funded part of the project, sees ABCD/E as one of its most successful projects in translating research into policy and practice.

To see how the ABCD and ABCDE projects and One21seventy fit into the landscape of quality improvement initiatives in Indigenous primary health care, see Figure 2.1.

Benefits of the One21seventy CQI cycle

The benefits of using the One21seventy CQI cycle, tools and services include:

- Access to a Continuous Quality Improvement (CQI) system developed specifically to support high quality primary health care for Aboriginal and Torres Strait Islander people.
- Use of tools that are -
  - based on evidence of best practice
  - user friendly
  - aligned with reporting and accreditation requirements
  - designed to tackle key risk factors such as diabetes, chronic kidney disease, hypertension and coronary heart disease
  - help improve overall organisational systems for delivery of high quality care.
- An ongoing system for monitoring and evaluating local health centre performance, with capacity to benchmark across cluster, State/Territory or national levels.
- Improved morale, productivity and focus of staff.
- An approach that can be undertaken in any sized health centre because it is flexible, adaptable and customised to local needs.

Continuous quality improvement (CQI) in health care

What is CQI?

- CQI in health care is an approach to health centre management, emphasising an ongoing or continuous process of evaluation in order to improve performance.
- The CQI process involves collecting information, assessing the information, planning, taking action, and reviewing the action.
- CQI is an ongoing and cyclical process to sustain improvements and to focus energy on agreed priorities.
- A similar approach is used in the 'Plan, Do, Study, Act' (PDSA) process cited in many accreditation and action learning frameworks.

What does CQI mean for an organisation?

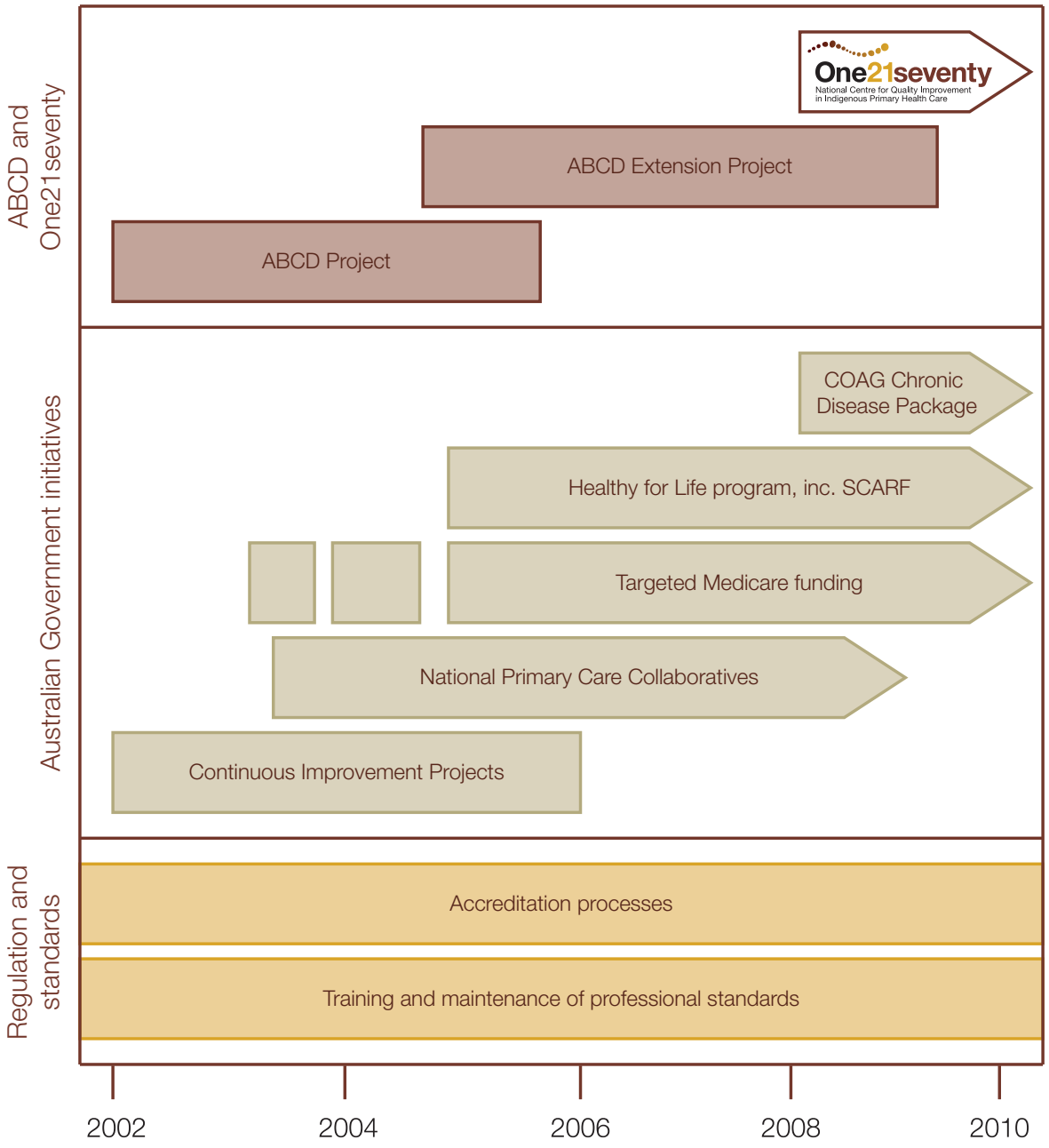
- For CQI to work well, it should become embedded in the culture of the organisation using it and integral to the organisation's operation. This should be reflected in a commitment from the management and staff to work towards continually improving all aspects of the organisation's operations.
- CQI is a 'whole-of-organisation approach' and is most successful when everyone participates. It is not simply putting policy and procedures in place or achieving accreditation. The CQI approach will not be successful if it is left to one person in the organisation to drive, implement and evaluate its operations.

- A commitment to CQI brings flexibility and vibrancy to a health centre, which lifts the morale of staff and delivers improved outcomes.

How does One21seventy fit into the Indigenous primary health care CQI landscape?

The diagram in Figure 2.1 shows the place of One21seventy in the landscape of quality-related initiatives in the Indigenous primary health care landscape 2002-2010, including the ABCD and ABCDE projects.

Figure 2.1: Quality-related initiatives in Indigenous primary health care, 2002-2010



Who is involved in the One21seventy CQI cycle?

CQI is an area of practice that is still developing in Indigenous primary health care. Roles and position titles are changing. There is also great diversity in the size and nature of services that provide Indigenous primary health care. Thus it can be difficult to talk about specific positions in relation to CQI. This manual uses broad terms that refer to roles rather than position titles.

Some of the roles likely to be involved in the One21seventy CQI cycle are:

- **Health centre or health authority manager,** a role that is critical in the decision to adopt a CQI approach and ensure that it becomes part of the organisation's 'way of working'.
- **'Regional CQI coordinator'** who provides CQI support to a number of health centres. This person may be employed by a cluster, State or Territory health service, or by a peak body such as the Aboriginal Medical Services Alliance of the Northern Territory (AMSANT).
- **'Local CQI facilitator'** provides CQI support to a single health centre. Often this person will have other roles or other titles, such as Chronic Disease Coordinator or Healthy for Life Coordinator. Usually they will be employed at the local health centre.
- **Medical officers and public health officers** who play a critical role in the interpretation of CQI data from a clinical or population health perspective.
- **Other clinical practitioners such as nurses and health workers.** Being involved in the One21seventy cycle gives all clinical staff new insights into the importance of good record keeping and best practice in clinical care.
- **Other members of the health centre team.** Ideally, the One21seventy CQI cycle will involve as many health centre staff, managers and even governing board members as possible. The One21seventy cycle looks at the whole health centre system and there is benefit in involving the whole staff.
- **External consultants** are used by many health centres to support the facilitation of the CQI process and the implementation of actions to achieve goals.
- **Senior or middle managers** who provide funding or control policy and programs affecting health centres and services. The support of these managers can be critical in recognising the value of the CQI process and enabling or removing barriers to changes to bring about better health care.

One21seventy products

One21seventy supports health centres and health services by developing and delivering products and services that support the One21seventy CQI cycle.

The One21seventy CQI cycle

The One21seventy CQI cycle is usually implemented over a twelve-month period. As shown in Figure 2.2, the cycle provides health centres with a roadmap of the stages and steps within the cycle.

Figure 2.2: The six stages of the One21seventy CQI cycle

The six stages of the One21seventy CQI cycle

Stage 1: Signed agreement

Health centres and health authorities secure access to the One21seventy CQI cycle, tools and services once a service agreement is signed.

The **service agreement** is a legal contract between the Menzies School of Health Research (as the legal entity under which One21seventy operates) and the regional authority that has decision-making capacity (the 'Client') and contracts One21seventy to provide services. The regional authority might be a State or Territory health service, a regional health service, or some other body.

The service agreement covers:

- confidentiality
- intellectual property
- conflict resolution
- a schedule of terms
- termination conditions
- a schedule of agreed details including costs and obligations.

The regional authority may then make localised agreements with individual health centres covered by the service agreement, to clarify local arrangements.

Stage 2: Orientation/training

During this phase regional CQI coordinators and local CQI facilitators will receive any training necessary to support the implementation of the cycle, and will themselves introduce local health centre staff and managers to the key components of the CQI cycle, including the data collection tools and processes, access to the One21seventy web-based information system for data input and reporting, recommended timelines and the ongoing One21seventy support functions.

Stage 3: Data collection: Clinical audits, systems assessment, and the Health Centre and Community Survey

In this step, a variety of data about the health centre is collected through the clinical audit tools, the Systems Assessment Tool (SAT) and the Health Centre and Community Survey (HCCS). These data are then entered into the One21seventy web-based information system.

Data entry should be organised to suit the local context. For example, in some health centres or services, data input is done by health centre staff with guidance and support from a regional CQI coordinator or local CQI facilitator. In other places all data input will be done by one person such as the local CQI facilitator.

Once data entry is completed, raw data can be downloaded and checked for inconsistencies. Reports can be generated.

Stage 4: Data analysis and reporting

The One21seventy web-based information system analyses the data and generates reports. A range of reports can be generated, including:

- A report for each audit tool, with relevant systems assessment data, and information on previous goals (where available). Note: A systems assessment will be included with the clinical audit report only if it has occurred within three months before or after the clinical audit.
- A report from the HCCS.
- The current cycle's goal setting.

Reports can be downloaded as a Microsoft Word® document so they are easy for health centres to edit and include in other reports, for example, management or board reports.

Please note that this manual does not include a separate section about Stage 4, 'Data Analysis and Reporting', as the work is done within the One21seventy web-based information system. Information about how to download reports is included in Section 9, 'The One21seventy web-based information system'.

If health centres have agreed to share their data with others, reports will show comparative data at the cluster, State/Territory and national level. A 'cluster' of health centres is defined through agreement with the participating health centres and the agency that is funding their participation. These clusters may reflect administrative arrangements (such as districts or regions) or other arrangements related to CQI support.

Stage 5: Participatory interpretation, goal setting and action planning

This stage occurs at the local health centre. It requires the most intensive facilitation in the One21seventy CQI cycle. Many health centres use an external facilitator for this stage, perhaps a regional CQI coordinator or external consultant. Ideally, the stage will involve as many members of the local health centre management and staff as possible.

Participatory interpretation involves feedback to the local health centre team on the findings in the reports, and facilitated discussion of the key messages. It is important to have a health centre clinician help with the interpretation of the reports to make sure the meaning is interpreted correctly for the local clinical context.

The purpose of these sessions is to:

- increase the level of shared understanding of the systems and clinical practices that operate in the health centre
- discuss how well the health centre is performing across a range of services
- promote understanding of current clinical best practice and systems to support client care
- review the links between the clinical audits and the systems assessment results to inform improvements in care and/or services in the health centre.

Goal setting is when the local health centre team – assisted by a facilitator – identifies priority areas for improvement, sets goals and develops strategies to attain those goals.

Action planning involves the development of a clear plan of action to address the priorities, goals and strategies identified in the participatory interpretation process. Health centres may choose to use the networks established through their engagement with One21seventy to incorporate ideas and advice from other health centres about what has worked well for them.

Stage 6: Implementation

It is then up to the health centre's management and staff to implement the action plan. One21seventy does not normally provide direct support in this stage, except through the use of its networks and web-based information system.

Timelines for the One21seventy CQI cycle

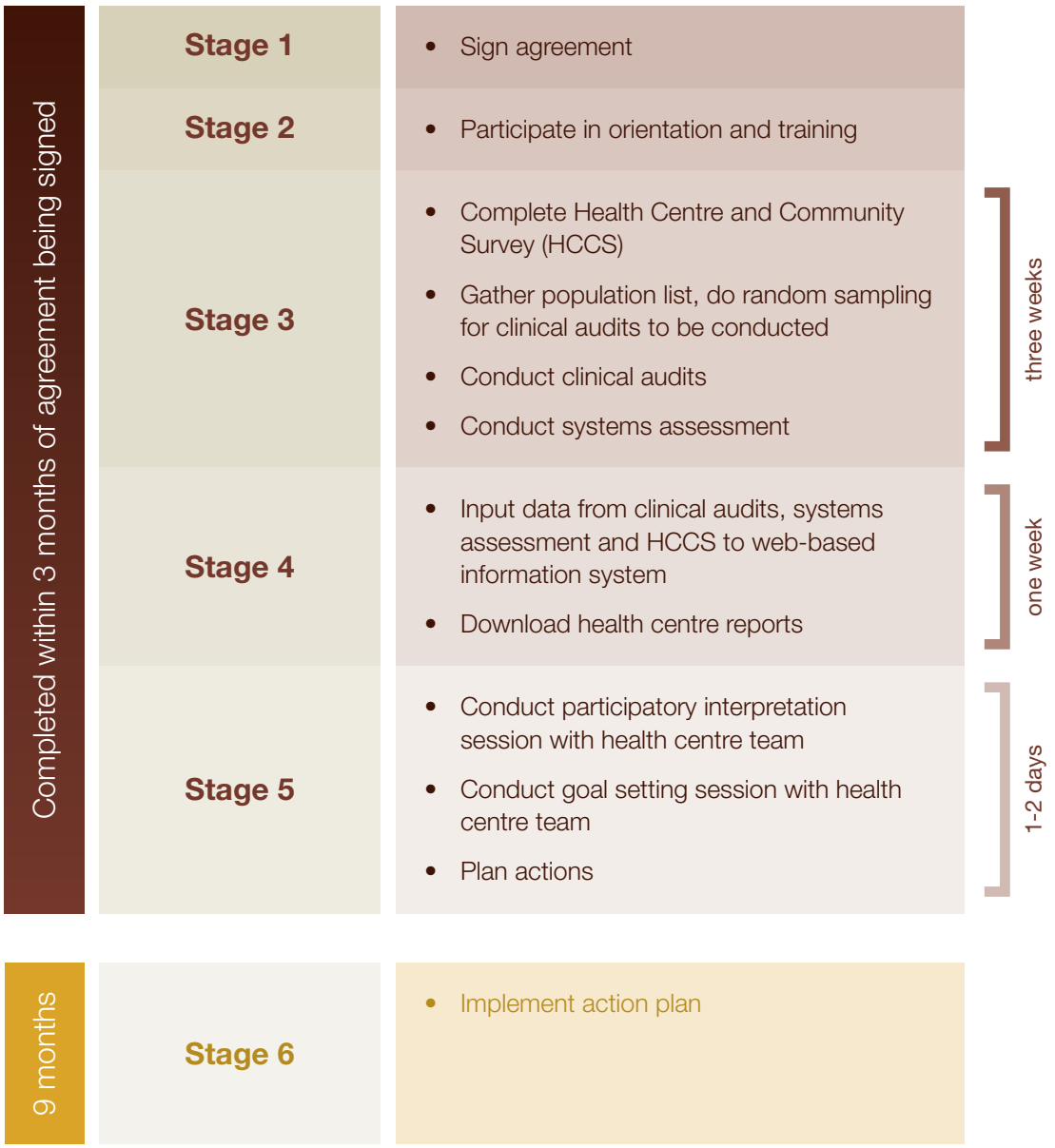
The recommended timeline for the One21seventy CQI cycle is shown in Figure 2.3. The full cycle is designed to be completed on an annual basis.

It is important to note that the timeline is a guide only. It is recognised that health centres will move through the cycle at varying rates, and each site may require additional support at various stages. However, completion of steps 3 to 5 in the cycle within the recommended timeframe allows for a longer period to implement the action plan. In practice, most health centres complete Stages 3 to 5 within three months.

There are often challenges and barriers to effective and timely completion of the entire cycle. One21seventy is committed to assisting sites through the whole cycle, although its major involvement is in Stages 1-5.

It is helpful to identify any factors in the local setting that might constrain or enable each step of the process before starting the One21seventy

Figure 2.3: Recommended timelines for the One21seventy CQI cycle



CQI cycle. These local factors may include:

- managing workloads relating to data collection and reporting
- accuracy and accessibility of local data
- support required by health centres to collect, deliver and use data
- education and training needs of staff
- support from health centre management, the community, health boards and clients
- natural disasters and local crises.

One21seventy data collection tools

The One21seventy data collection tools include:

- the Health Centre and Community Survey (HCCS)
- a range of clinical audit tools
- the Systems Assessment Tool (SAT).

The **Health Centre and Community Survey** (HCCS) is used to collect information about the operating environment of the health centre.

The **clinical audit tools** collect data about how the health centre delivers recommended services to prevent or manage chronic conditions and provide maternal and child health care. They reflect best practice and allow health centres to collect the data they need for reporting against key performance indicators. Each audit tool has an accompanying protocol, which provides both a detailed step-by-step guide to using the tool and an overview of the evidence base that underpins the tool's content. The audit tools and protocols are reviewed and updated regularly by specialist working groups to ensure that they reflect current best practice and work well.

Characteristics recorded in the Health Centre and Community Survey

- Type of governance arrangement (community controlled, State/Territory government service)
- Accreditation status
- Staffing level
- Location (city/town/remote community)
- Outstations or outlying clinics serviced
- Indigenous population
- Number of clients
- Regular visiting staff

The clinical audit tools include:

1. **Vascular and metabolic syndrome management for:**
   - type diabetes
   - hypertension
   - chronic kidney disease
   - coronary heart disease
   - chronic heart failure.
2. **Maternal health.**
3. **Child health.**
4. **Preventive health.**
5. **Acute rheumatic fever and rheumatic heart disease.**
6. **Mental health.**
7. **Youth health.**
8. **Sexual health (STI/BBV).**

A description of the types of information collected with each audit tool can be found in Appendix 2A at the end of this section.

The **Systems Assessment Tool** (SAT) is used to collect information about the state of the health centre's systems required to support good clinical care. The types of systems assessed include delivery systems design, Information systems and decision support, and self-management support. More detail on what the systems assessment covers is provided in Appendix 2B.

The One21seventy web-based information system

The One21seventy web-based information system promotes and supports the core functions of One21seventy by providing:

- access to audit tools, protocols and training materials
- input of data from audits, systems assessment, the HCCS and health centre goals
- data analysis and reporting functions
- reports that show cluster/jurisdiction comparisons for those health centres consenting to participate in pooled and de-identified data analyses
- access to a range of other resources, including documents and links to the evidence base underlying the audit tools.

For more information on the One21seventy web-based information system, see Section 9 of this manual, or go to www.one21seventy.org.au.

One21seventy services

Education, training, consultancy and support

Training to use the One21seventy CQI cycle to achieve improvements over time is one of One21seventy's key functions.

One21seventy provides training for regional CQI coordinators, local CQI facilitators, health centre staff, general practitioners/medical officers and health centre managers in the use of tools and processes, including:

- conducting clinical audits
- systems assessment facilitation
- feedback and interpretation of data
- goal setting and action planning
- use of the One21seventy web-based information system.

Please contact One21seventy staff for up-to-date information on the education, training and support services.

Benefits from these courses include:

- skilled staff who are able to make effective use of CQI processes in the local health centre context
- sharing and celebrating success and lessons learned
- seeing the 'bigger picture' of helping to improve the health, well-being and care of Aboriginal and Torres Strait Islander people

- acknowledging the place and importance of information about health centre systems and how that information can contribute to planning and goal-setting processes.

Other One21seventy training, consultancy and support services include:

- the One21seventy training manual
- telephone and email helpdesk
- consultancy and support from experienced One21seventy staff who understand local needs
- access to One21seventy CQI resources via the web-based information system
- access to eLearning modules.

Consultancy services

One21seventy can provide consultancy services to health centres or health services. These consultancy services include CQI facilitation, systems assessment facilitation, evaluation and advisory services.

Commissioned reports

In addition to the routine reports generated through the web-based information system, One21seventy is able to produce reports tailored to specific requirements, such as:

- Health centres or services may wish to commission One21seventy to produce reports from their own data that explore specific elements of the data more deeply.
- Participating health authorities or health services might commission reports that draw on the de-identified and aggregated data at the cluster, State/Territory or national level, to address specific policy issues. These reports can be used to inform planning, system change, and advocacy.
- One21seventy can produce policy briefing papers on key issues affecting Indigenous primary health care, based on analysis of pooled data from consenting health centres.

These reports or briefing papers:

- add to the evidence base for the uptake, effectiveness and sustainability of CQI
- continue to describe the achievements, challenges and priorities of primary health care for Indigenous people at cluster, State/Territory and national levels
- contribute to informing policy debates about the structure and funding of primary health care for Indigenous people.

To discuss the commissioning of a report or briefing paper, contact the One21seventy Helpdesk.

Please contact One21seventy staff for up-to-date information on the education, training and support services.

One21seventy Helpdesk

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E: one21seventy@menzies.edu.au

What does the One21seventy CQI cycle require of health centres and services?

CQI processes like the One21seventy CQI cycle need commitment, ownership and resourcing from the health centres and health services that adopt them. Leadership support for CQI—at the clinical, health centre and cluster level—is one of the critical factors for successful implementation and sustainability of CQI over time.

Health centre managers need to ensure:

- commitment to allocate real staff time to support CQI processes
- commitment for staff to take part in training to build their skills
- allocation of staff time to carry out audits, enter data and interpret reports
- support for widespread staff participation in systems assessment, participatory interpretation, goal setting and action planning
- commitment to support the implementation of strategies to achieve goals.

The support of senior and middle managers in health authorities (cluster, State/ Territory health services) has also been identified as a critical success factor in the adoption of CQI. Similarly, the employment of regional CQI coordinators to provide external support to health centres is important in supporting progress through all stages in the cycle and in sharing lessons and ideas between centres.

Senior and middle managers in health authorities should be prepared to contribute:

- leadership to encourage and support the use of CQI as core business
- resourcing of regional CQI coordinators to support local health centres
- support to encourage implementation of strategies to achieve goals
- recognition of the achievements of health centres through CQI
- financial commitment to ensure ongoing access to up-to-date audit tools, training and the One21seventy web-based information system.

Data ownership and management

Data ownership and management in One21seventy is in line with the National Aboriginal and Torres Strait Islander Health Data Principles, which set out a culturally respectful foundation for the collection, storage and use of health and health-related information. These principles are endorsed by Australian Health Ministers' Advisory Council.

In practice, this means:

- The maintenance of confidentiality of information derived from client clinical notes is the responsibility of all personnel involved in clinical audit processes and reporting. One21seventy staff are bound by a confidentiality agreement.

- One21seventy stores electronic data in password-protected systems. Client names or identifying numbers are not entered into the One21seventy web-based information system.

- Any sharing of health centre data with other individuals or agencies can only occur if and as specified in the 'Service Agreement' signed with a regional authority (a State/Territory health service, a regional health service, or some other body), and any local agreement made between the regional authority and an individual health centre.

- Identification codes linked to names are maintained by the health centre or health centre staff and should be stored in a separate locked facility. Protection of the confidentiality of these codes is the responsibility of the health centre, in line with privacy and confidentiality of their client health records more generally.

- Names of individual health centres are not included in reports for general circulation.

- Data entered into the web-based information system are not used for research purposes without specific and separate agreement of the health centre management and their governing bodies. Engagement of health centres/health services with One21seventy does not indicate any agreement, obligation or expectation to engage in research, or to make health centre data available for research purposes.

- If health centres/health services agree to participate in research, this needs to be negotiated through a separate process and documented in a separate signed Research Agreement.

- Issues of data ownership and management related to use of data for research purposes is subject to the National Health and Medical Research Council's Statement on 'Values and Ethics—Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research', and approval by relevant health research ethics committees.

Appendix 2A: Description of clinical audit tools

Tables 2A.1-2A.6 describe the types of information included within each audit tool. Further explanation of items included in each tool is available in the protocols.

Table 2A.1: Content of the vascular and metabolic syndrome management clinical audit tool

This audit tool can be used to assess for any one or more of the following:

- type 2 diabetes
- coronary heart disease
- chronic heart failure
- chronic kidney disease
- hypertension.

Related systems assessment report: Chronic illness management systems assessment.

Type of information	Types of indicators recorded
General	Client characteristics: age, gender, Indigenous status, Medicare number recorded in notes, etc.
Diagnosis	Diagnosis of type 2 diabetes, coronary heart disease, chronic kidney disease, chronic heart failure and/or hypertension and when diagnosis recorded.
Attendance at health centre	When client last attended the health centre, reason for attendance, which type of health practitioner saw the client first.
Risk factors, brief intervention and referral	Status recorded, risk level, brief intervention or referral provided, in relation to: • tobacco use • alcohol use • obesity.

Co-morbidities, complication and procedures	Diagnosis of related conditions, such as: • alcohol-related complications, such as cirrhosis or dementia • asthma or chronic obstructive airways disease (COAD) • hyperlipidaemia • depression and/or other mental illness • neuropathy • foot ulcers, amputation of foot or leg • stroke • heart conditions that have required surgery.
Management plan and scheduled services	Record of current 'Chronic Disease Management Plan', including clinical and/or self-management goals. Record of discussion with client within past 12 months about: • chronic disease management and medications • nutrition • physical activity. Blood pressure, weight, waist circumference, eyesight, feet checked within past 6 or 12 months. Flu, pneumococcal vaccinations up to date.
Emotional well-being screening and care	Record of screening or concern for emotional well-being within past 12 months. Record of referral (such as brief intervention, counselling, medication, cognitive behavioural therapy) and review.
Audit of current treatment	Medications prescribed.
Investigations	Records of testing to check kidney function, lipids, blood sugar and blood glucose levels.
Follow-up of abnormal clinical findings	Record of follow-up if abnormal readings are recorded for blood pressure, glycated haemoglobin (HbA1c) and cholesterol.

Table 2A.2: Content of preventive services clinical audit tool

Type of information	Types of indicators recorded
General	Client characteristics: age, sex, Indigenous status, Medicare number recorded in notes, etc.
Attendance at health centre	When client last attended the health centre, reason for attendance, which type of health practitioner first saw the client.
Key information in clients medical record summaries	Diagnosis of any chronic or recurrent medical condition requiring regular attendance at medical centre. Medical summary, 'Adult Health Check' forms and immunisation record present.
Risk factors, brief intervention and referral	Status recorded, risk level, brief intervention or referral provided, in relation to: • tobacco use • alcohol use • obesity • cardiovascular risk
Scheduled preventive services	Records of provision of scheduled services including: • weight, waist measurement • tests such as blood pressure, urinalysis, blood glucose, lipid profile • pap smear, mammogram, sexually transmitted diseases, reproductive and sexual health • oral health check, visual acuity, ears and hearing, trichiasis, skin check • record of discussion of nutrition, physical activity, family relationships, other substance abuse, environment/living conditions • record of discussion of continence.

Emotional well-being screening and care	Record of screening or concern for emotional well-being within past 12 months. Record of referral (such as brief intervention, counselling, medication, cognitive behavioural therapy) and review.
Follow-up of abnormal findings	Whether abnormal findings were recorded for: • blood pressure • blood glucose • urinalysis • lipid profile. Follow-up of abnormal findings recorded.

Table 2A.3: Content of the maternal health clinical audit tool

Type of information	Types of indicators recorded
General	Client characteristics: age, Indigenous status, Medicare number recorded in notes, date of baby's birth, baby's birthweight, gestational age and Indigenous status, type ofbirth, transfer of care, location of birth.
Attendance for antenatal care and routine supplements	Information about first and subsequent antenatal visits. Prescriptions of folate and/or iron. Antenatal care plan or record present.
Pregnancy risk factors and brief interventions	Recording of status, follow-up and/or brief intervention around: • smoking, alcohol, illicit drugs • social risk factors, such as domestic violence, social supports, financial situation • medical risk factors, such as medical conditions, gynaecological and obstetric history. Brief intervention/counselling provided around antenatal education, nutrition, physical activity, cultural considerations, environment/living conditions.

Emotional well-being screening and care	Record of screening or concern for emotional well-being during pregnancy. Record of referral (such as brief intervention, counselling, medication, cognitive behavioural therapy) and review.
Routine antenatal checks and abnormal findings	Record of routine checks related to weight, BMI, blood pressure, urine, fundal height, fetal heart rate and fetal movements at points throughout the pregnancy (<13 weeks, 13-26 weeks, > 26 weeks).
Lab investigations	Record of pregnancy-related tests carried out, including blood and urine tests, foetal anomaly tests and ultrasounds.
Postnatal visit	Record of postnatal visit. Brief intervention/counselling provided around breastfeeding, nutrition, smoking, contraception, care of infant, mood, environmental/living conditions.
Response to abnormal findings	Record of follow-up, treatment, etc. in relation to abnormal findings from tests carried out.

Table 2A.4: Content of the child health clinical audit tool

Type of information	Types of indicators recorded
General	Child characteristics: age, sex, Indigenous status, Medicare number recorded in notes.
Attendance at health centre	When child last attended the health centre, reason for attendance, which type of health practitioner first saw the client.
Key information in client medical record summaries	Does the patient record include: • growth chart • immunisation chart • child health check within past 12 months
Audit of scheduled immunisations	Record of whether the child is up-to-date with scheduled immunisations.

Audit of scheduled services	Record of whether the child is up-to-date with scheduled services Scheduled services include: • weight, length, head circumference, BMI • hip examination, gait, skin check, trachoma • ear, eye, vision and hearing examination • cardiac auscultation, respiratory examination • overall development • anaemia and/or parasitic infections tests • testes check. Brief intervention/advice to carer about: • breast feeding • nutrition and eating • passive smoking risk • oral health • preventing infection/hygiene • physical and mental stimulation • social and housing environments • education progress • social and emotional well being • sexual and reproductive health • risk factors – smoking, alcohol use, drug/ substance use
Follow-up of abnormal clinical findings	Follow-up, referral or brief intervention provided, if there is evidence of: • growth faltering or failure to thrive • recurrent/chronic ear infections • anaemia • recurrent/chronic respiratory disease • infected skin sores or scabies • proteinuria • overweight/obesity • concerns about developmental delay, domestic or housing environments, social and financial situation or food security.

Table 2A.5: Content of acute rheumatic fever and rheumatic heart disease clinical audit tool

Type of information	Types of indicators recorded
General	Client characteristics: age, sex, Indigenous status, Medicare number recorded in notes, etc.
Attendance at health centre	When client last attended the health centre, reason for attendance, which type of health practitioner first saw the client.
Key information in clients medical record summaries	Diagnosis information Risk classification Risk factors including smoking, alcohol, cardiac surgery
Penicillin use and recurrent rheumatic fever	Benzathine penicillin or oral antibiotic prophylaxis Prescription, frequency and recording of benzathine penicillin use Compliance with benzathine penicillin use and follow up if required Recurrent rheumatic fever, benzathine penicillin compliance and follow up if required
Scheduled services	Record of provision of scheduled services including: • Doctor review • Cardiologist/physician/ paediatrician review • Echocardiogram • Dental review • Influenza vaccination • Polysaccharide pneumococcal vaccination • Education and brief intervention/counselling around rheumatic heart disease, smoking, alcohol, nutrition, physical activity

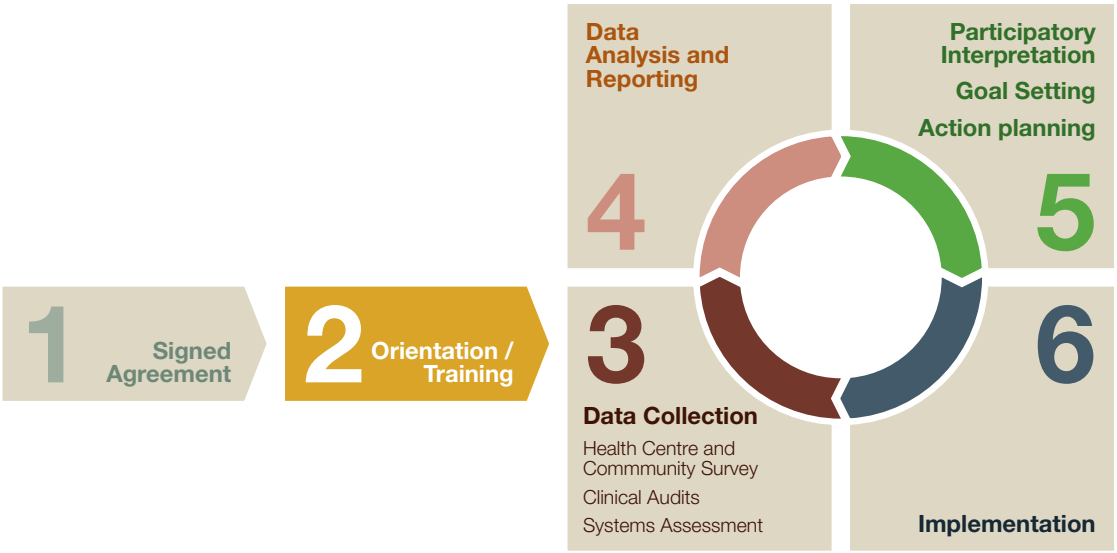
Table 2A.6: Content of the mental health clinical audit tool

Type of information	Types of indicators recorded
General	Client characteristics: age, sex, Indigenous status, Medicare number recorded in notes, etc.
Attendance at health centre	When client last attended the health centre, reason for attendance, which type of health practitioner first saw the client. Most recent mental health attendance
Key health information	Diagnosis information Shared care, referral Mental health care plan, recording and review of goals
Risk factors, co-morbidities and complications	Risk factors, brief intervention or referral provided, in relation to: • smoking • alcohol use • other drug • obesity Co-morbidities and complications such as chronic disease, organic complications of alcohol misuse, asthma, CVA, hepatitis C
Current treatment	Medications prescribed.
Hospitalisations and discharge	Hospitalisations, documentation and follow up
Scheduled services	Comprehensive progress assessment (6 to 12 monthly) including MSE, adult health check, BP and review of medication by psychiatrist or registrar Treatment and care (in the last 3 months) including counselling and education with client and family/carer, joint discussion/consultation around culturally appropriate service delivery, engagement with Indigenous health worker, traditional healer or Indigenous community worker

Investigations	Lab investigations required for clients prescribed regular psychotropic medication
Follow up of abnormal clinical findings	Exacerbation or deterioration of symptoms and/or behaviours including sleep patterns, auditory/hallucinations, mood, psychotic episodes, medication side effects, aggression, withdrawn, self care Follow up, referral, review

Section 3: Orientation

The purpose of this section is to provide guidance in the process of introducing the One21seventy CQI cycle to health centre staff and management.



What's in this section

Section 3: Orientation

What is orientation?

Orientation is the process of introducing the One21seventy CQI cycle to managers and staff at the local health centre. It provides an overview of the whole One21seventy CQI cycle and is a time to orientate the local CQI facilitator to the local health centre's preferences and priorities in using the cycle. Orientation occurs after there is a signed agreement in place for the health centre to use One21seventy tools and services.

Depending on the local circumstances the regional CQI coordinator and/or local CQI facilitator may come to the health centre to undertake the orientation phase of the cycle or it may be done over the phone.

Issues that might be discussed at orientation include:

- Which audit tools will be used?
- Who will be involved in the audit process?
- Who will be involved in the systems assessment?
- What support does the local health centre need to complete the CQI cycle, e.g. help with completing the audit, external facilitation support for the systems assessment?
- Who is the key contact person to liaise with the regional CQI coordinator?
- How to set up access to the One21seventy web-based information system, and how to use the site.
- Privacy and confidentiality issues around data management.

Why carry out orientation?

Orientation helps to:

- give an overview of the whole cycle and its value to the health centre
- clarify roles and responsibilities
- clarify commitments of time and resources for the health centre and any others involved
- identify any potential barriers to successful use of the cycle so they can be addressed early
- engage individuals who have particular roles to fulfil in the cycle (such as managers, clinical leaders, health workers)
- lay the groundwork so that the cycle can proceed smoothly and effectively.

Prior to orientation, the One21seventy CQI cycle may not be familiar to local health centre staff. Others may have been involved with an earlier CQI process such as the ABCD Project, National Primary Care Collaboratives, or Continuous Improvement Projects, and bring expectations from their previous experiences to the One21seventy process.

Orientation is the time to make sure that everyone who will be involved has a clear understanding of what the One21seventy CQI cycle is, what time and resources are required, and who is responsible for each of the steps in the cycle.

For regional CQI coordinators or local CQI facilitators, it is the time to get a clear understanding of how the health centre intends to apply the One21seventy CQI cycle. Each health centre is unique, and the One21seventy CQI cycle can be shaped – within limits – to fit the local environment and priorities.

Orientation is not a program of activity or a set day. It is about making sure that the groundwork is done so the entire One21seventy CQI cycle can run on a solid foundation at the local health centre.

Who is involved in orientation?

For local health centre staff, orientation is an important part of preparing the ground so that the One21seventy CQI cycle can be implemented as smoothly and effectively as possible.

Exactly who is involved in orientation will depend on local circumstances and who is available. More staff involvement will allow for a shared understanding of the process, staff commitments required and roles and responsibilities within the One21seventy CQI cycle. Some of the people who might be involved are:

- **Health centre managers** need to know exactly what the cycle will require of staff, and when. To get the most from the One21seventy CQI cycle, managers need to be committed to the process, support the involvement of as many staff as possible, and set in place arrangements so the CQI process becomes part of the health centre's 'way of working'.

- **Clinical leaders** need to know that they have a key role in the One21seventy CQI cycle – interpreting the information in audit reports to identify the most critical results in the local context.

- **Health workers** bring another perspective to the interpretation of results, providing information that sets the clinical data within the context of community life.

- **All health centre staff** need to know that their roles play a part in the health centre's systems and that they can contribute to the implementation of the One21seventy CQI cycle.

What needs to be done in orientation?

A basic orientation process might include:

- ❑ Confirming with a manager or key contact person:
  - Which audit tools will be used?
  - Who will be involved in the audit process?
  - Who will be involved in the systems assessment?
  - Possible timeframes for auditing and systems assessments.
  - Whether the local health centre needs any additional support to complete the CQI cycle, for example, help with completing the audit, or external facilitation support for the systems assessment.
  - How the health centre will ensure privacy and confidentiality of data, including the need to keep client ID lists in a secure place such as a locked cabinet.
- ❑ Completing the Health Centre and Community Survey. This completes a stage of data collection and helps the regional CQI coordinator and/or local facilitator to become familiar with the context of the local health centre. See Section 4, 'Health Centre and Community Survey'.
- ❑ Talking to local health centre management about how they can ensure the health centre will get the most out of the One21seventy CQI cycle.
- ❑ Talking to the local health centre's clinical leaders about:
  - What they will consider a reliable sample size.
  - How their expertise will be crucial in the 'Participatory Interpretation' part of Stage 5 of the One21seventy CQI cycle.
  - Explaining how to get access to the One21seventy web-based information system and showing the key contact person through the site. See Section 9, 'The One21seventy Web-Based Information System'.

Section 4:
The Health Centre and Community Survey (HCCS)

The purpose of this section is to explain the Health Centre and Community Survey (HCCS) and how it fits into the One21seventy CQI cycle.

What's in this section

Section 4: The Health Centre and Community Survey (HCCS)

What is the Health Centre and Community Survey?

The Health Centre and Community Survey (HCCS) is a brief tool designed to collect information on the operating environment of each local health centre, such as its location, population size, and governance arrangements.

The HCCS should be completed and entered onto the One21seventy web-based information system before audit reports can be generated.

The purpose of the HCCS is to ensure there is a record of the environmental conditions that may have had an impact on the local health centre and to allow for comparison of health centres according to key features of the operating environment at the time of audit.

Characteristics recorded in the Health Centre and Community Survey

- type of governance arrangement (community controlled, State/Territory government service)
- accreditation status
- staffing level
- regular visiting staff
- location (city/town/remote community)
- outstations or outlying clinics serviced
- Indigenous population
- number of clients.

How does completing the HCCS benefit a local health centre?

The information collected and the process of completing the HCCS benefits local health centres by providing a clear picture about the local health centre's operating environment. This can be used to:

- orientate new staff or visitors, acting as a source of corporate knowledge
- track change over time
- be taken into account when considering audit and systems assessment data
- compare the local health centre's situation with that of others in their cluster, State/Territory, or nationally. (For information on confidentiality and privacy of data in the One21seventy web-based information system, see Section 2, 'Introduction to One21seventy'.)

Completing the HCCS

The preferred method for completing the HCCS is that it be done by the regional CQI coordinator or local CQI facilitator – in conjunction with local health centre staff - during a visit to the health centre.

The HCCS should be completed every calendar year to capture changes in health service operating environment.

It is important to involve staff at the health centre who have knowledge of the information required in the HCCS.

The HCCS can be done any time after the signed agreements are completed.

> Completing the HCCS as part of the orientation process can help all staff become familiar with the context of the local health centre.

HCCS data are entered into the One21seventy web-based information system (www.one21seventy.org.au) under the 'Input Data' section. The data should be entered as soon as possible after collection.

Using the HCCS report

The HCCS report can be used alongside the clinical audit and systems assessment data in the feedback, interpretation and goal-setting stages of the One21seventy CQI cycle.

The report can be used to help local health centre staff consider:

- possible underlying factors for the strengths and weaknesses that may emerge from the clinical audit and systems assessment data
- how to overcome or manage barriers in the operating environment that may be limiting the capacity to provide high quality care
- how available resources might be used to achieve change. For example, staff might wish to investigate redeployment of resources, modifying systems, developing external partnerships or seeking out solutions used by others in similar environments.

Section 5:
Clinical Audits

The purpose of this section is to introduce and explain the use of the clinical audit tools, and how to prepare for and carry out an audit.

What's in this section

About clinical audits

- What is a clinical audit?
- What are the benefits of clinical auditing?
- Who carries out a clinical audit?
- How are clinical audits carried out?

The One21seventy clinical audit tools

- What clinical audit tools are available and where are they found?
- What sort of information is collected in a One21seventy clinical audit?
- How are the One21seventy clinical audit tools and protocols kept up to date?
- What happens to the data once collected?

Preparing for an audit

Step-by-step: Doing an audit

Step-by-step: Sampling

Section 5: Clinical Audits

About clinical audits

What is a clinical audit?

A clinical audit is a systematic review of the information that has been recorded in clinical patient records about a particular type of health care (e.g. maternal and child health care, preventive services).

Clinical audits are carried out using audit tools that collect items of information about recommended health care and health outcomes. Audit tools are based on evidence-based best practice guidelines and/or other protocols or criteria, and on important health indicators such as blood pressure and HbA1c levels.

Each audit tool has an accompanying protocol that provides a detailed step-by-step guide to the use of the tool and explains the evidence base that underpins it.

The protocol must be used alongside the audit tool as the integrity of the data collected depends upon the correct use of the tool as explained in the protocol.

What are the benefits of clinical auditing?

Clinical audits help health centre staff know exactly what standards of care the health centre is providing. The information collected in a clinical audit can be used to:

- assess the quality of health care received by patients in line with best practice guidelines
- identify and prioritise areas of service delivery that can be improved as part of a quality improvement process
- track changes over time in the quality of health care provided, showing whether planned improvements to health care systems have resulted in better care.

By providing an objective measure of the quality of care and of changes over time, clinical audits can help give health centre staff a sense of achievement that can often otherwise be overwhelmed by day-to-day business.

Health centre staff who take part in a clinical audit will benefit from learning about:

- the importance of keeping good patient records
- the standards of care regarded as best practice
- the evidence that underpins best practice.

Who carries out a clinical audit?

Clinical audits can be done by anyone who has completed basic training in use of the audit tool and process. Taking part in a clinical audit is a valuable learning experience for any staff member involved with clinical care or client records.

Clinical training is an advantage, but is not essential if an auditor (a person doing an audit) has had appropriate training in the audit process and has access to someone with clinical training to answer queries on the clinical records.

An auditor should be familiar with where and how information is recorded in client records, including the names (and acronyms) for treatments and medications.

How are clinical audits carried out?

An audit is carried out on a list of clients who meet certain criteria (for example, people with a diagnosis of diabetes type 2). This may be the complete list of clients who meet those criteria, or it may be a sub-set or 'sample' of client records. A sample is used when a large number of clients meet the criteria. In these cases, auditing all the records would be too time-consuming. Instead, a mathematical formula is used to work out how many client records should be sampled in order to give an accurate picture of the health care being provided.

An auditor examines the medical record(s) of each client in the sample and records the relevant information on the audit tool. They must ensure that the audit captures only information recorded in the client records. If an auditor enters information that they believe happened but which is not in the client record, the integrity of the process will be compromised.

Audits can be carried out using paper or electronic record systems, depending how the local health centre records clinical information. Where some information is recorded on paper records and some on computer records, the audit should cover both record systems.

The One21seventy clinical audit tools

What clinical audit tools are available and where are they found?

The One21seventy clinical audit tools include:

- vascular and metabolic syndrome management—type 2 diabetes, hypertension, chronic kidney disease, chronic heart failure, and coronary heart disease
- maternal health
- child health
- preventive health
- acute rheumatic fever and rheumatic heart disease
- mental health
- youth health
- sexual health.

Current versions of clinical audit tools and associated protocols can be downloaded from the One21seventy website, www.one21seventy.org.au, in the 'Resources' section.

What sort of information is collected in a One21seventy clinical audit?

All clinical audit tools collect specific types of information, including:

- general information (for example date of birth, gender, Indigenous status)
- information about the client's last attendance at the health centre (for example date, reason, and who they saw)
- information about delivery of specific clinical services relevant to the aspect of care covered by the audit tool (for example, diagnosed illnesses, risk factors, scheduled services, prescribed treatment, investigations and follow-up of abnormal results).

How are the One21seventy clinical audit tools and protocols kept up to date?

One21seventy regularly reviews each clinical audit tool. The review is carried out by a specialist working group set up for each of the clinical audit tools. These working groups:

- include medical officers, nurses, educators and health centre team members who are using the tools and are expert in their field
- review how the data are reported/analysed and presented to health centres in order to maximise the potential for the data to be used for quality improvement purposes.
- consider feedback from facilitators and health centres about problems or issues with the clinical audit tools and protocols and make changes as appropriate. (Feedback can be logged through the One21seventy web-based information system, www.one21seventy.org.au, using the 'Feedback' section.)
- update the audit tool and/or protocol to incorporate developments in evidence-based best practice guidelines.

What happens to the data once collected?

The clinical audit data are entered onto the website via the data input screens for the relevant audit tool. Access to these data input screens is restricted to authorised personnel, and each health centre should put in place appropriate protocols to ensure that data are not entered incorrectly or tampered with.

Once data entry is completed, raw data can be downloaded and checked for inconsistencies. Reports can be generated.

The web-based information system analyses the audit data once they have been entered. The results of the analysis can be viewed on screen, or downloaded as a detailed report in a Microsoft Word® document.

The audit reports are then ready to be used in a systems assessment and in Stage 5 of the CQI cycle—'Participatory Interpretation, Goal Setting and Action Planning'.

Preparing for an audit

There are a few simple preparations that will streamline the audit process and ensure good quality data are recorded. These preparations should be made by those who are leading the audit process.

Before the audit day:

- ❑ Confirm with the health centre staff who is going to be involved in the auditing process. Check that staff have been allocated time to complete the audit.

- ❑ Download the current audit tool and associated protocol from the One21seventy web-based information system, www.one21seventy.org.au. Audit tools and protocols are updated regularly so it is essential to always download the latest version.

> If doing more than one audit, it might be helpful to photocopy the audit tools and protocols before audit day and put them in different colour folders—green for maternal, red for preventive, etc.

- ❑ Ensure each auditor has access to the appropriate protocol.

- ❑ A separate audit tool form (either paper or electronic) is used for each client record being audited.

- ❑ Clarify with the health centre if the audit will be based on paper or electronic records, or both. Advise the One21seventy helpdesk to have the data entry pages set to reflect this requirement. This will make data input easier.

- ❑ Confirm roles and responsibilities—for example, who will be:
  - the main contact point at the local health centre
  - involved in the clinical auditing process
  - assisting with obtaining population lists
  - entering the data into the One21seventy web-based information system.

- ❑ Prepare a client list. The details of how to prepare a client list, including preparing a 'sample' or sub-set of a large client list, are described below in 'Step-by-step: Doing an audit' and 'Step-by-step: Sampling'. These two 'step-by-step' guides can be downloaded from the One21seventy web-based information system as stand-alone resources, see www.one21seventy.org.au, 'Resources' section.

- The sample size needed for an accurate reflection of a local health centre's client list can be a matter of some debate as there are many different approaches to sampling. It can be useful to discuss this with the local health centre's clinical leadership and check what their expectations are about sample sizes. If the validity of the sample size is disputed during later interpretation sessions, the credibility of the whole process can be undermined. So it is best to discuss this issue early in the process, such as during the orientation stage. 'Step-by-step sampling' outlines how samples can be generated, and this information may be what clinicians want to see at the outset.

Different health centres have different approaches to who will take part in the clinical audits. Some centres have chosen to have staff from another health centre carry out the audit. There are advantages in having local staff take part in the audit, as it provides a very clear picture of the quality of patient records. These are important issues to discuss with health centre managers and staff when working out who will take part in the audit process.

Take a 'pregnancy wheel' when carrying out maternal health care audits – it will help when working out whether recommended tests or checks have been done within the appropriate timeframe.

Much of this preparatory information may have already been gathered during an orientation process (see Section 3, 'Orientation'), but it is useful to confirm near the audit date as staff or arrangements may have changed.

Step-by-step: Doing an audit

Step one: Preparing a client list or sample

To carry out an audit a 'client list' is needed. This is a list of clients who meet the requirements set out in the associated protocol. For example, for the diabetes type 2 audit a list of all clients with a recorded diagnosis of type 2 diabetes is needed.

Where does the client list come from?

An electronic patient information system may be able to generate a client list based on some of the eligibility criteria. If not, or if the local health centre does not already have a list that meets the audit requirements, a client list must be prepared before the audit can go ahead.

Question: What happens if there isn't a 'list' of clients, rather just filing cabinets of files—do we just pick every X number physical file?

Answer: Yes, if the files in the cabinet can be treated as a client list for the particular audit, you could pick every X file. If the files in the cabinet do not reasonably reflect the people who should be on a client list, the first step in the audit process will be to get a client list together.

Question: In that instance, what should we do about missing files?

Answer: If you do use the files in the cabinet as the 'client list', you should check that there are no files in other locations and that as far as possible all relevant files are in the cabinet at the time that you draw the sample.

Health centres that are operating both paper and computerised clinical record systems should audit both record systems.

What makes a client eligible for inclusion in a clinical audit?

The protocol for each audit tool sets out the inclusion and exclusion criteria for clients. Different audit tools have different criteria, so it is important to refer closely to the protocol.

If the inclusion criteria are not applied properly, or applied inconsistently, the integrity of the audit data will be at risk and may be less reliable for health centre planning purposes.

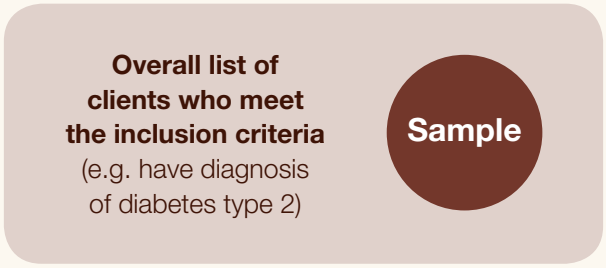
Involve Aboriginal or Torres Strait Islander health workers or community-based liaison staff to help identify which people in the community should be included or excluded from the audit according to eligibility requirements in the audit protocol.

For audits where the client list may be very long (for example, the preventive services audit or the child health audit in large communities, towns or cities), it may be more efficient to exclude ineligible clients during the sampling process, rather than going through the complete list before doing the sampling.

How many records should be audited?

For client lists of 30 people or less, all client records should be included in the audit.

For larger client lists, it is too time-consuming to audit all records. So a subset or 'sample' of client records are selected, using mathematical formulae to make sure that the sample provides a reliable picture of the whole client list. This process is called 'sampling'. A detailed guide to selecting a sample is contained in 'Step-by-step: Sampling'.



A 'sample' is a smaller subset of the overall client list.

Two factors in deciding the size of the sample are:

- how accurate (or close to the 'truth') the health centre wants its audit
- how much time or work can be put into doing the audits.

A bigger sample will give a more precise indicator, but it will also mean more work. Health centres balance these two considerations in setting the sample size.

Where health centres have large client lists for some audits and wish to get more precise estimates of indicators, a larger sample should be drawn.

How can a sample accurately reflect the population within the community?

A sample can be selected so that it accurately reflects different age groups or genders across the community. This is called 'stratifying' the sample. This means that the sample is divided into equal numbers of each of specific groups (for example, males and females). This technique is recommended for the child and preventive audits, where it helps ensure a good representation across the age ranges and gender.

The end result

Whatever process is used to generate a client list or sample, the result should be a list of client names and/or record numbers that can then be audited.

What is a sample's use-by date?

A new sample should be generated for each audit. The previous cycle's sample should not be re-used (unless all possible clients were included in the list for audit). Even then, be sure that newly arrived or newly diagnosed clients, and clients who no longer meet the audit criteria, are included or excluded as appropriate.

Client lists and samples should be drawn up immediately before auditing to ensure that the sample includes only those clients who meet the eligibility criteria at the time of the audit.

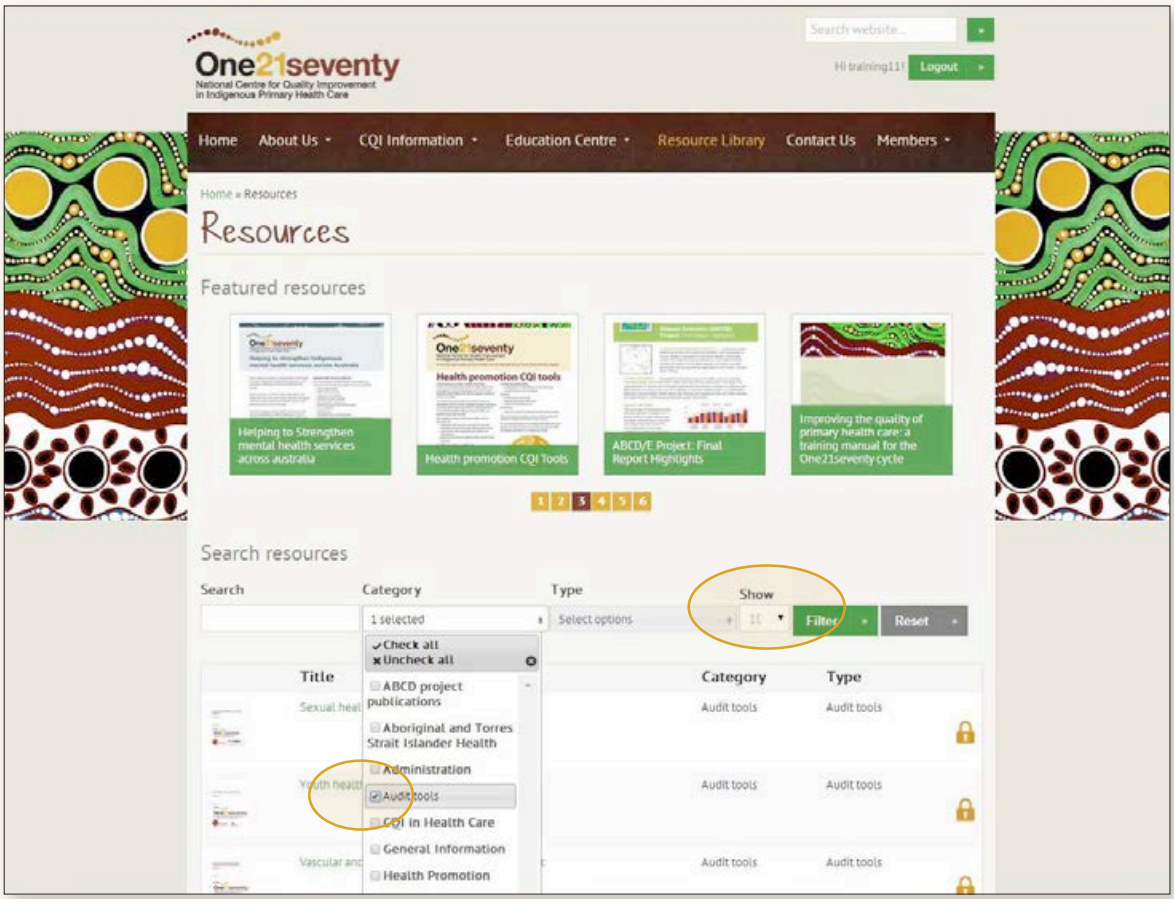
Step 2: Auditing the client records

Once the client list or sample is produced, the process of auditing can begin. Auditing is a time consuming activity, but it has many benefits. Health centre staff who are involved in the audit will develop an understanding of the importance of thorough and accurate record-keeping and recognise what constitutes best practice care.

It will take a small team of 2-3 auditors about a day to complete around 30 records, depending on their level of experience. Larger samples will take longer, and some audit tools take longer to complete than others.

Doing an audit

- Download a copy of the current clinical audit tool and protocol from the 'Resources' section of the One21seventy web-based information system (www.one21seventy.org.au). Have the protocol alongside the audit tool while auditing. The protocol contains detailed instructions explaining each question in the tool. The integrity of the audit may be compromised if the protocol is not followed.



Because audit tools and protocols are updated regularly, it is important to use the latest version for all audits. The data input screens and analysis functions of the web-based information system are designed to match the latest versions of the audit tools. Previous versions of audit tools may no longer fit with what is on the screen.

Doing the audits in a group or in pairs can help with talking through how the recorded information fits with what is required in the protocols. Make notes of discussions that may help with later interpretation and analysis.

To help manage staff time around the audits, some health centres roster staff members to spend a couple of hours each doing some auditing. This means that the work – and the benefits of being involved in auditing - can be shared across all areas of the health centre.

Ideally auditing for each tool should be completed within one week of commencing the audit. The audit date should be recorded as the date when the audit began.

- The One21seventy web-based information system can be used to record whether information has been recorded in paper-based or electronic records, or both. If this has not already been done, advise the One21seventy helpdesk to have the data input pages set to reflect the local health centre's preference. This will make data entry easier. Health centres that are operating both paper and computerised clinical record systems should audit both record systems.

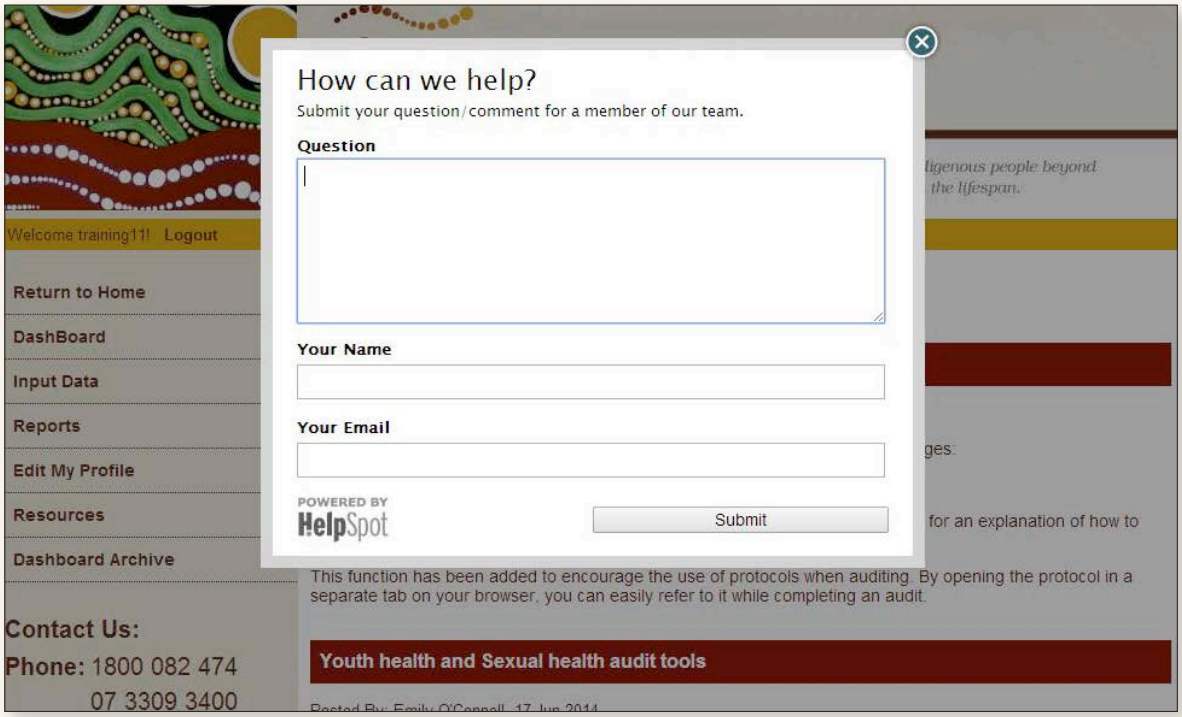
- If there is any confusion about the interpretation of the protocol, contact your CQI coordinator or facilitator or the One21seventy help desk.

- Clinical audits can be done on the paper audit tool forms and then entered into the web-based information system, or the data can be entered straight into the site as each medical record is audited.

- Assign each individual client record a three-digit client ID (for example, 001). This is done to protect the confidentiality and privacy of client records, so that there is no link from the data entered into the One21seventy web-based information system to the individual client's name. Take the list of client records that are to be audited, and record the three-digit client ID number against each client record that is listed. This list which links the assigned client ID with the client's name and medical record number should be kept somewhere safe, such as a locked cabinet, to protect the individual's privacy.

- **Only report what is clearly documented in the records. Do not make assumptions or fill in the gaps based on what might have happened.**

- Provide feedback through the One21seventy web-based information system 'Feedback' section on any issues that arise with the protocol or clinical audit tool. This information will be logged and passed on to the specialist review team when the audit tools and protocols are next reviewed.



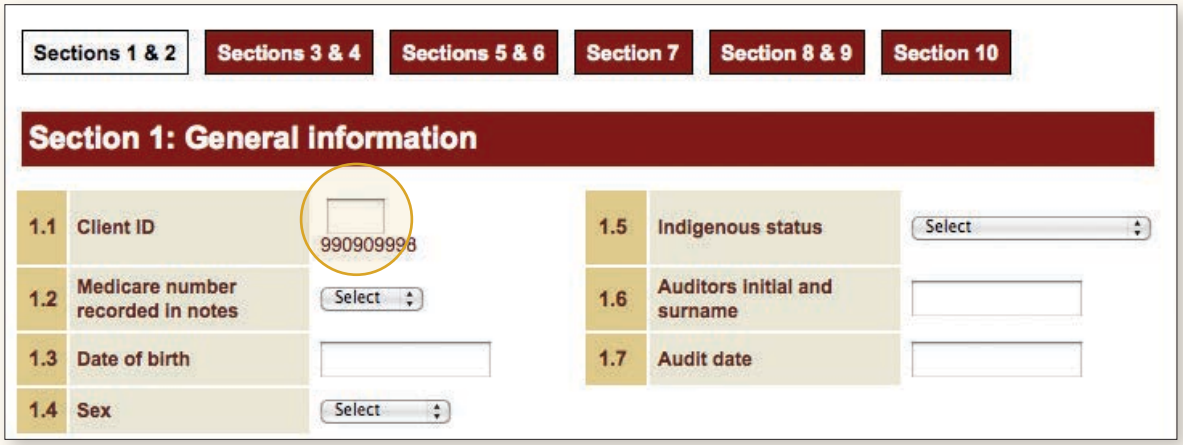
One of the benefits of clinical auditing is that it highlights any areas of clinical record keeping that may need improvement. For example, if a health centre uses both paper and computer clinical record systems it is important to be consistent in where specific clinical information is recorded. If the approach is not consistent, clinicians will waste valuable time searching for information in the wrong place and may miss important information. The audit data about where specific information has been recorded will help determine how well record keeping policies are being followed, and can inform planning to improve practice in clinical record keeping.

Data input

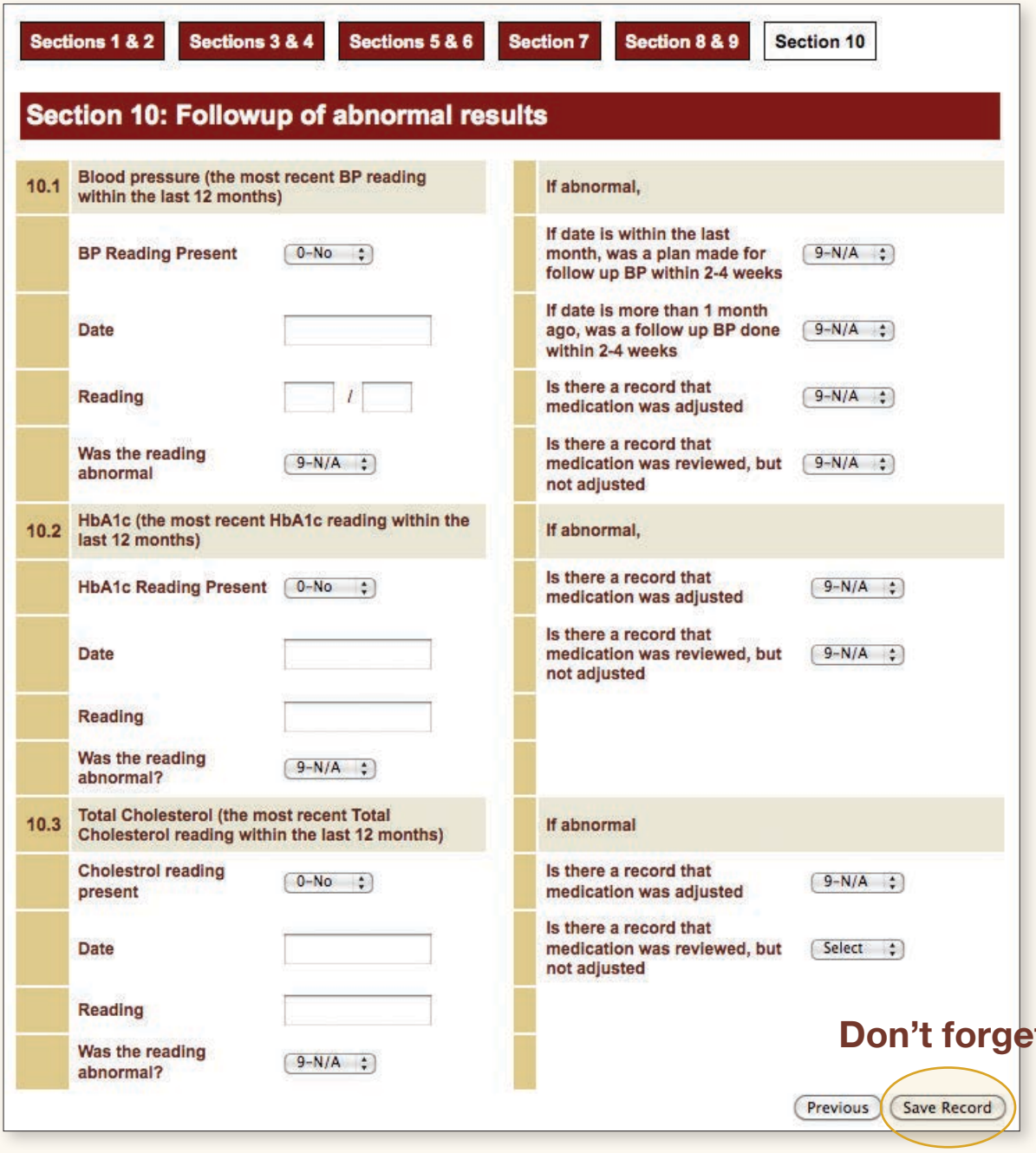
Data collected during an audit is entered into the One21seventy web-based information system (www.one21seventy.org.au), in the 'Input Data' section.

- Data can be entered as the client records are being audited, or after the audit is complete, as long as it is within 3 months of audit date.
- Data input should be done at the local health centre level, with support from the local CQI facilitator and/or the regional CQI coordinator.
- The data input screens are designed to reflect the paper audit forms for each audit tool; that is, the questions and sections are in the same order, although page breaks may come at different points.

Some health centres nominate one person to look after data input and data management to help maintain security and accuracy.



- When the three-digit client ID number is entered, the web-based information system automatically links it to an identifying number that indicates the health centre and audit tool used.
- All questions must be answered on both the clinical audit tool forms and the data input screens. In some cases, 'Not applicable' (N/A) options are available, and date and text fields are left blank if not applicable.
- Remember to click on the 'Save' button on the last data input screen. All the information for that audit record must be entered and the 'Save' button clicked for the record to be saved. Incomplete records cannot be entered.
- All dates entered into the data input screens must be in the format dd/mm/yyyy (for example, 31/04/2010).
- Some questions ask for information in specific units of measurement, such as kilograms. In these cases, numerical values must be entered, but do not enter the unit of measurement (for example, kg for kilograms). If the number is unknown, see protocol for appropriate entry.
- Data for some tools are validated as it is entered into the one21seventy web-based information system. Mistakes can occur during data entry, so it is beneficial to enter data at the same time that the clinical audits are being done, as medical records are readily accessible if there is a need to go back and check an entry.
- Data entered into the One21seventy web-based information system can be edited for up to eight weeks after the audit date. After this time, data are locked to editing.


Sections 1 & 2
Sections 3 & 4
Sections 5 & 6
Section 7
Section 8 & 9
Section 10
Section 10: Followup of abnormal results
10.1
Blood pressure (the most recent BP reading within the last 12 months)
BP Reading Present
0-No
Date
Reading
Was the reading abnormal
9-N/A
10.2
HbA1c (the most recent HbA1c reading within the last 12 months)
HbA1c Reading Present
0-No
Date
Reading
Was the reading abnormal?
9-N/A
10.3
Total Cholesterol (the most recent Total Cholesterol reading within the last 12 months)
Cholestrol reading present
0-No
Date
Reading
Was the reading abnormal?
9-N/A
If abnormal,
If date is within the last month, was a plan made for follow up BP within 2-4 weeks
9-N/A
If date is more than 1 month ago, was a follow up BP done within 2-4 weeks
9-N/A
Is there a record that medication was adjusted
9-N/A
Is there a record that medication was reviewed, but not adjusted
9-N/A
If abnormal,
Is there a record that medication was adjusted
9-N/A
Is there a record that medication was reviewed, but not adjusted
9-N/A
If abnormal
Is there a record that medication was adjusted
9-N/A
Is there a record that medication was reviewed, but not adjusted
Select
Don't forget!
Previous
Save Record

Step 3: Generate a report

The web-based information system analyses the audit data once it has been entered. The results of the analysis can be viewed on screen, or downloaded as a detailed report in a Microsoft Word® document, from the 'Reports' section of the One21seventy web-based information system, www.one21seventy.org.au.

Note: Reports on clinical audits cannot be generated unless a Health Centre and Community Survey (HCCS) has been entered during the calendar year of audit, and before date of audit.

The downloaded report for a clinical audit tool will include:

- Comparison data for cluster, State/Territory and national data (where appropriate).
- Where available, systems assessment results are attached at the end of the clinical audit report.
- Goals and action plans from the previous audit, if a health centre has entered this information. Goals and action plans will appear at the back of the report. Current goals and strategies can be downloaded in a separate report.

Using the reports

A report on a clinical audit tool can be used in the following ways:

- To inform a systems assessment being undertaken in the health centre.
- To provide the data to inform Stage 5 of the One21seventy CQI cycle—'Participatory Interpretation, Goal Setting and Action Planning'.
- As the report is downloaded as a Microsoft Word® document, graphs or text can be easily pasted into various other reports and documents such as reports to a health centre board or management committee.
- To inform reports to the community or consultations about community priorities for health care.
- To inform management planning, decision-making, performance and reporting across a range of health centre operations.
- To support funding submissions for new or expanded health programs.

Step-by-step: Sampling

A sample is a smaller subset of the client list relevant to a particular audit tool. A sample is drawn when the whole client list is so large that it becomes impractical to audit all client records. Mathematical formulae are used to make sure the sample is a good representation of the overall client list and accurately reflects different groups within the population such as age groups or gender.

Step 1: Deciding the sample size

Two factors in deciding the size of the sample are:

- how important it is for the audit to be highly accurate
- how much time or work can be put into doing the audits.

A bigger sample will give a more accurate representation of the overall client list, but it will also mean more work. Health centres balance these two considerations in setting the sample size.

The selection of a sample size will depend on the local health centre's requirements in relation to:

- the degree of accuracy wanted in its audit results
- the time that can be spent auditing larger numbers of client records.

The degree of accuracy is measured as a 'confidence interval'. These measures are worked out using mathematical formulae. It is common to use a confidence interval of 90% or 95% as these mean that there can be 90% or 95% confidence that the result will be an accurate reflection of the whole client list.

The Indian Health Service (IHS) in the United States has developed a useful table for determining sample size to achieve specified levels of precision, as shown in Figure 5.1. This table shows the minimum number of client records that are needed to be 90% confident (columns 2 and 3) or 95% confident (columns 4 and 5) in the accuracy of the sample, depending on the size of the client list (or 'population' in this table). The columns headed 'Within 5%' and 'Within 10%' indicate that the sample results obtained will be within 5% or 10% of the results for the entire client list. So, if a client list includes 60 active patients with diabetes, and the health centre wants 90% confidence that the sample results will be within 10% of those of the entire client list, the sample will need to include at least 32 client records. For greater accuracy, for example 95% confidence and a 5% margin of error, 52 client records would need to be sampled; a much larger proportion of the overall client list of 60.

Figure 5.1: Indian Health Service (IHS) approach to determining sample size

Number of patients in client list eligible to be audited.

Number of files needing to be audited if seeking to be 90% certain that the sample results are within 10% of those of the entire client list (or population) – if the entire client list numbers 60.

Or for greater accuracy, 95% confidence and no more than a 5% margin of error, the sample should be 52.

Population e.g. no. of diabetes patients	90% certainty		95% certainty	
	Within 10%	Within 5%	Within 10%	Within 5%
<30	all	all	all	all
30	21	27	23	28
40	25	35	28	36
50	29	42	33	44
60	32	49	37	52
70	34	56	40	59
80	37	62	44	66
90	39	68	46	73
100	40	73	49	79
140	46	92	57	103
180	49	108	63	123
220	52	121	67	140
240	53	127	69	148
280	54	138	72	162
300	55	142	73	168
380	57	158	77	191
440	59	168	79	205
500	60	176	81	217
600	61	186	83	234
700	62	195	84	248
800	62	202	86	260
900	62	208	87	269
1000	63	213	88	278
2000	65	238	92	322

Step 2: Drawing a sample

There are two commonly used approaches to generating a sample. Both of these approaches are acceptable, and health centre staff should decide which one they find easiest.

- **Systematic sampling:** A systematic sampling approach used by the Indian Health Service (IHS) in the United States is outlined in Table 5.2 on page 54.

- **Random sampling:** Spreadsheet software can be used to generate a random sample as described in 'Random sampling using a Microsoft Excel® 2007 spreadsheet' on page 55.

There are other ways of generating samples, and a health centre may decide to adapt a different method. However it is important that the sampling method used is consistent between cycles or it will be difficult to rely on comparisons of the audit results over time.

'Stratified' sampling

Another important concept in sampling is that of 'stratification'. The protocol for many clinical audit tools specifies using a 'stratified sample'. This means that the sample includes equal numbers of clients from each of a number of specified groups, such as males or females, or different age ranges. The Random Sampling example on page 55 includes instructions for stratifying a sample.

Client lists and sampling should be done immediately before auditing to ensure that the sample includes only those clients who meet the eligibility criteria at the time of the audit.

Drawing a systematic sample

Systematic sampling as set out in the Indian Health Service sampling approach in Table 5.2 is very straightforward.

Table 5.2 Indian Health Service (IHS) Sampling Approach

Indian Health Service (IHS) Sampling Approach
The systematic sampling approach adopted by the IHS is done as follows: • Suppose you need to select 69 client records from an overall client list of 1000 clients eligible for inclusion in the audit. • First, divide 1000 by 69, which yields the number 14.4. You now know that you must select one client record out of fourteen. • However, don't automatically start with the first person in your client list. • Use any method of random chance to determine which one of the first 14 people on the list should be selected. For example, you could number 14 pieces of paper with '1' through to '14', and have someone draw one paper from this pile of numbers, or simply ask someone to randomly pick a number between 1 and 14. Use that number to select the first person for the audit. • Proceed through the entire client list, selecting every 14th person on the list, and then pull the client record for each of the selected persons. Note that when using paper records, it is important to track down any client records that are missing, as these are likely to belong to patients who have been seen recently and who may have high compliance with existing standards of care. *Adapted courtesy Indian Health Service (IHS):* *http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Resources/Audit/2013_DM_Audit_Instr_508c.pdf*

Generating a random sample using a Microsoft Excel® spreadsheet

This section explains how to generate a random sample, including a random sample that is stratified (or separated) according to sex and age ranges.

Many of the One21seventy clinical audit protocols require a stratified sample based on sex and age ranges. This is to ensure a good cross-section of the population is represented in the sample. For Healthy for Life reporting, samples will need to be stratified according to the age ranges defined by the Healthy for Life Program.

It is essential to follow the protocol closely to ensure correctly defined age ranges.

The following steps outline how to develop a random and stratified sample using a Microsoft Excel® spreadsheet.

Note: Some health centres may have a small client base in certain age ranges and may not need to create a random sample as the audit may need to include the entire age group.

If a stratified sample is **not** required, skip steps 1 and 2.

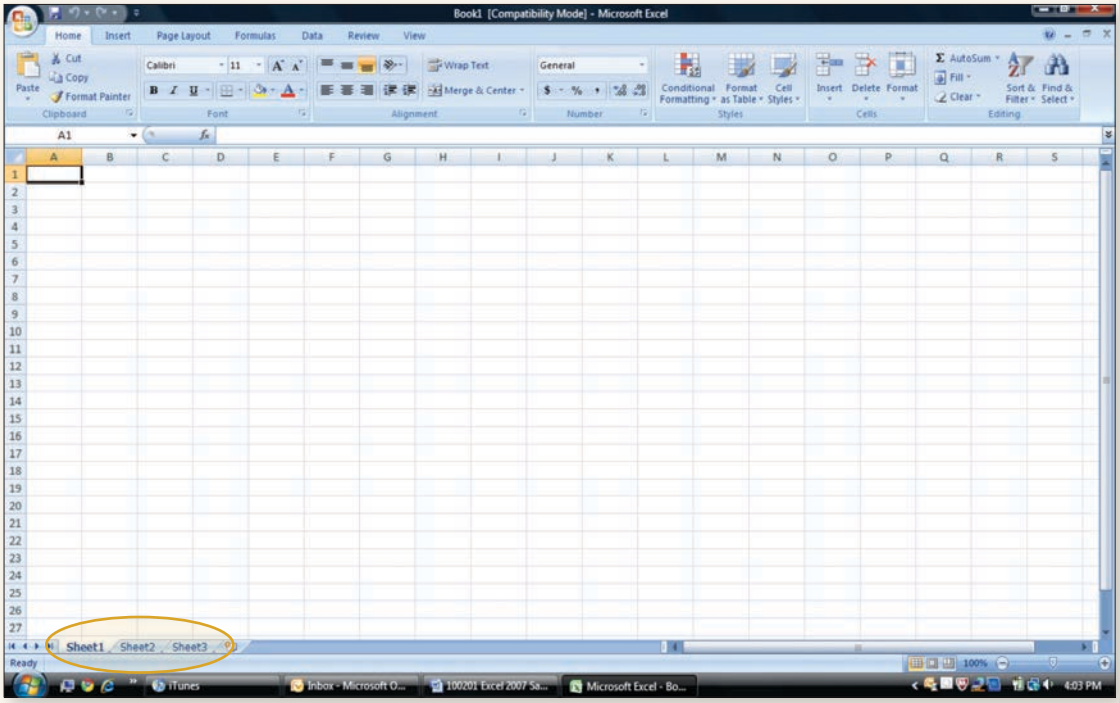
Step 1: Generate a stratified client list

One approach used by health centres is to begin by searching the **electronic clinical information system** for the population list by age ranges as defined in the protocol. While different health centres use different clinical information systems, most of the electronic systems such as Ferret, Medical Director and Communicare can be used to draw population lists with defined parameters such as age ranges.

A similar approach can be used for **paper-based systems** although it will be more time-consuming. Work through the client list and allocate each client to his or her appropriate age range.

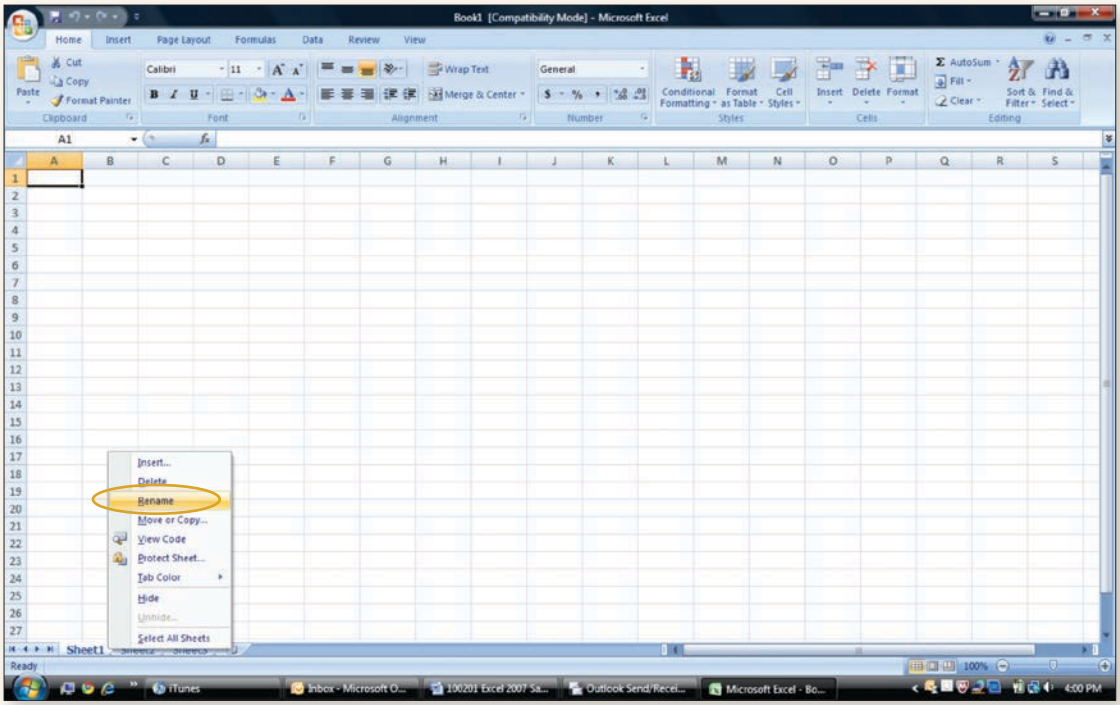
Step 2: Set up the spreadsheet for each age range

Open a Microsoft Excel® spreadsheet. Three worksheets automatically open, as shown by the three tabs at the bottom left of the screen.

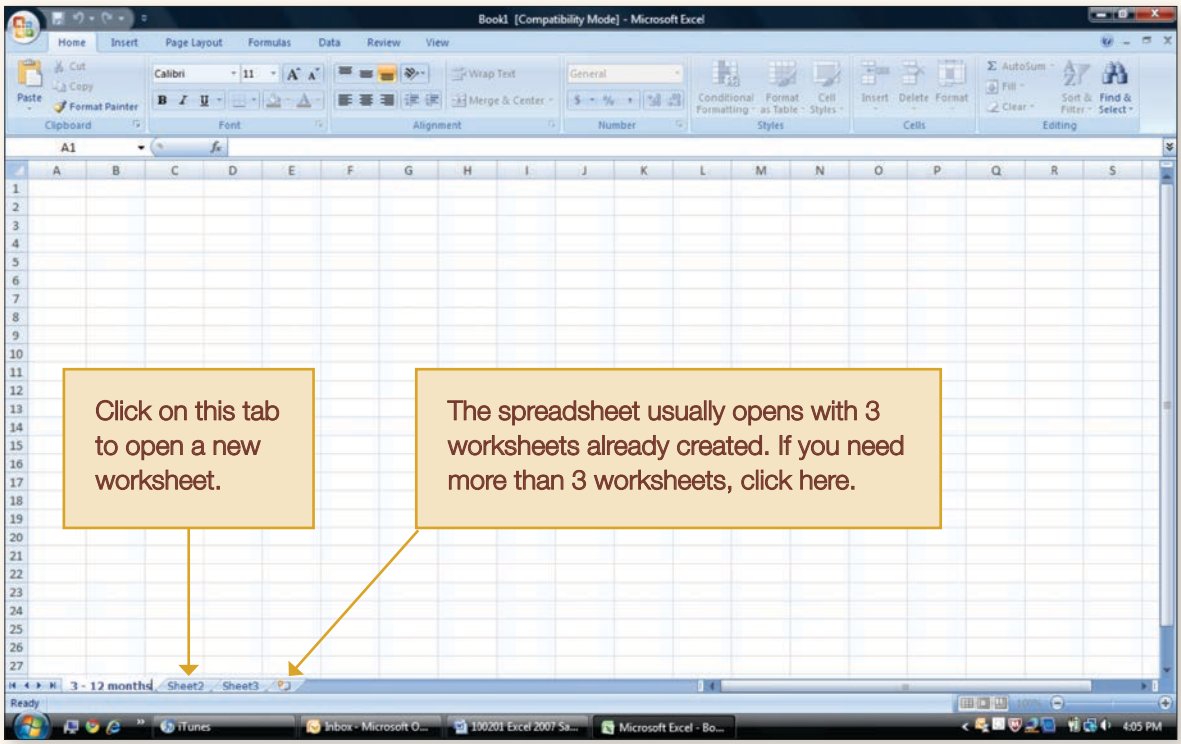


Rename the first worksheet with the name of the first age range to be defined.

To rename the worksheet, right click on the worksheet and press ‘Rename’. Give each worksheet the name of one of the age ranges, for example, for the Child Health audit, ‘3 - <6 months’.



Open a second worksheet by clicking on the tab ‘Sheet 2’ at the bottom of the page.



Create as many new worksheets as needed to include each of the age ranges.

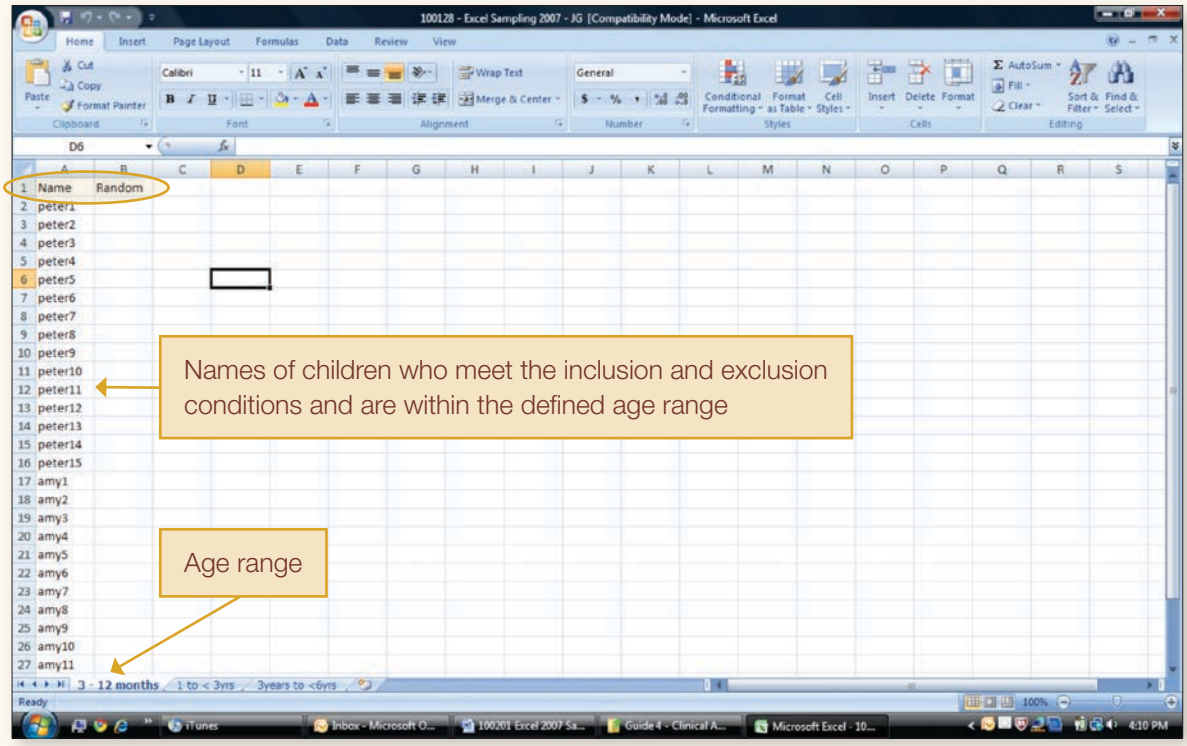
For each worksheet and age range, follow the remaining steps.

START HERE IF A STRATIFIED SAMPLE IS NOT REQUIRED

Step 3: Enter the client list

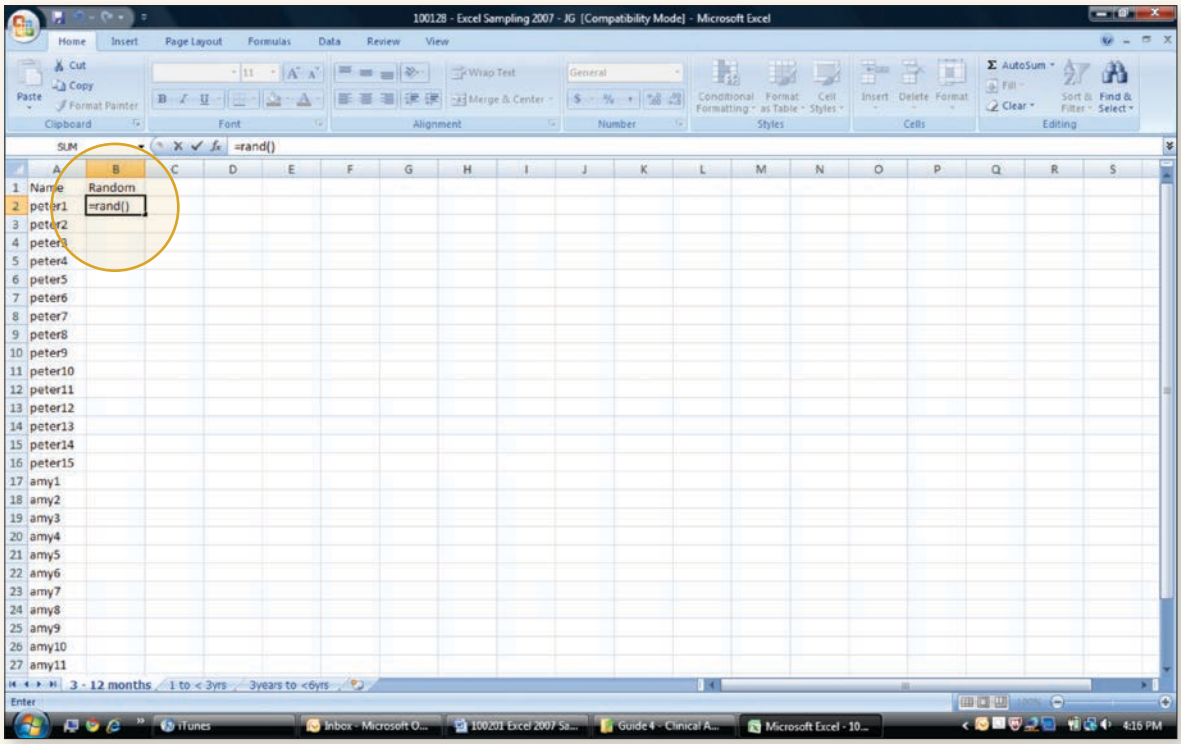
In Row 1, label Column A 'Name' and Column B 'Random'.

In Column A, under 'Name', enter or cut and paste the list of clients who meet the inclusion and exclusion conditions and – if creating a stratified sample - are within the appropriate age range. In this example, the defined age range is 3-12 months.

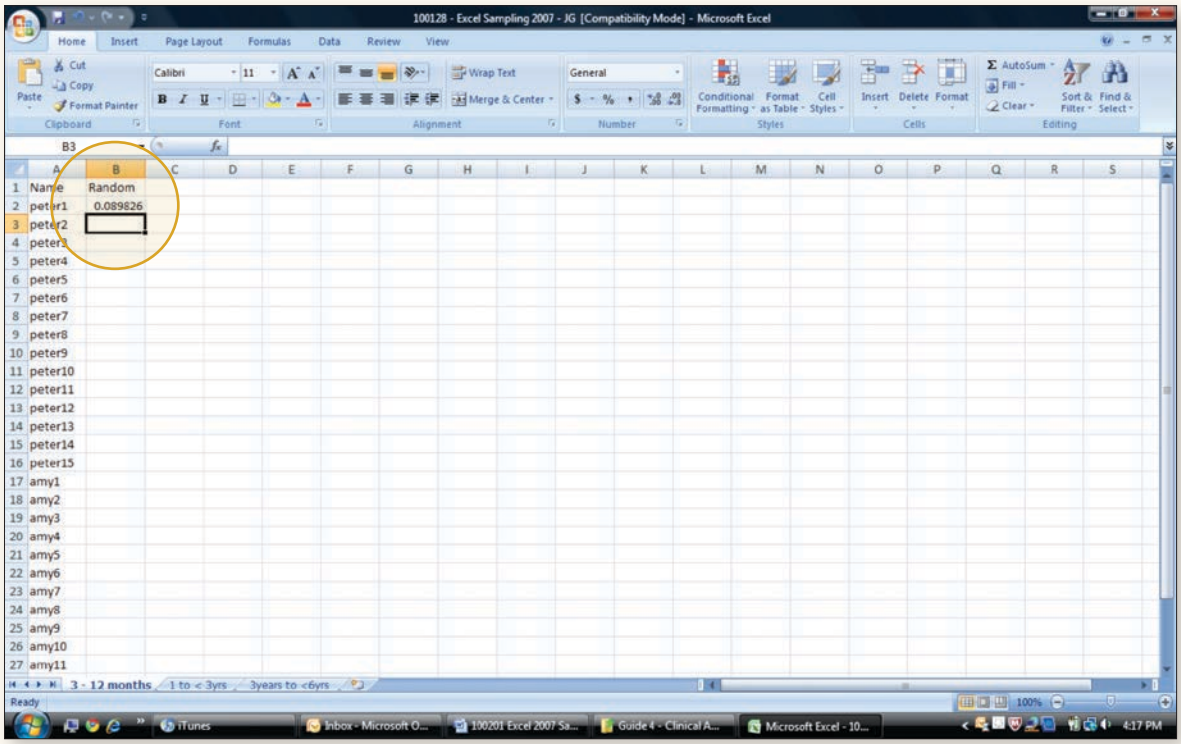


Step 4: Allocate a random number to each client

Type '=rand( )' in Row 2 of Column B under 'Random', then press 'Enter'.



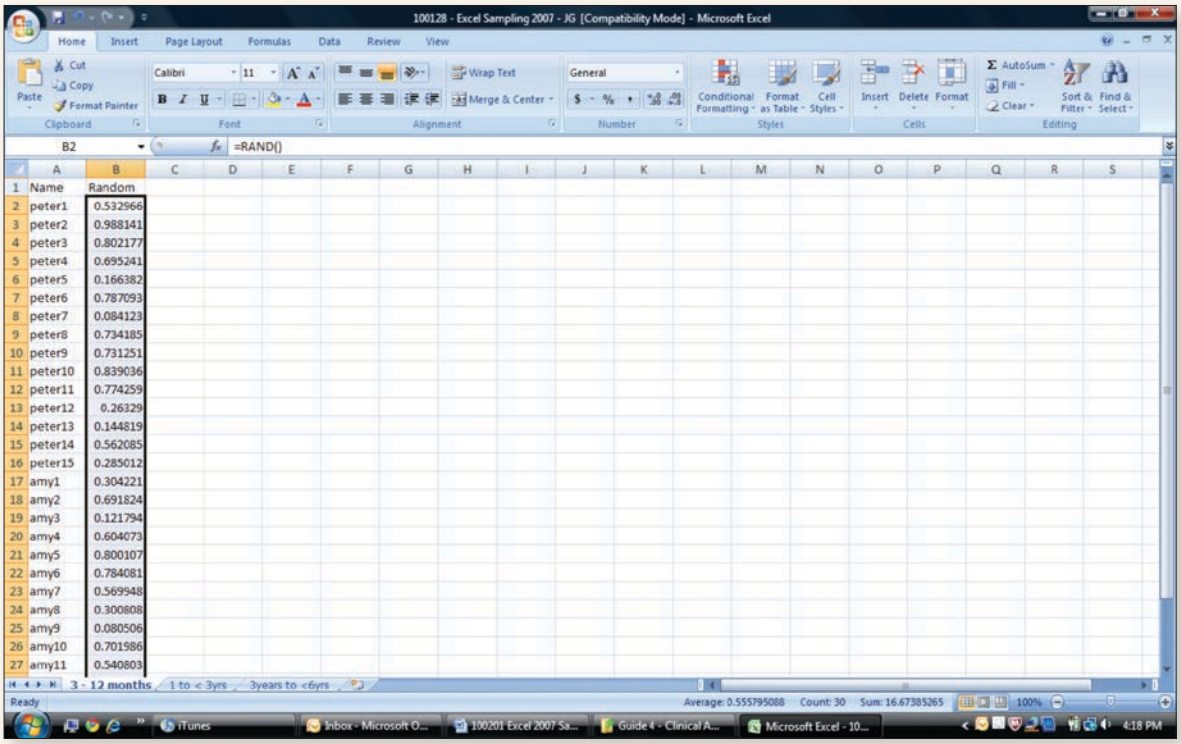
This will generate a random number in cell B2.



Select cell B2, then place the cursor to the right lower corner of this cell, and a solid cross + will appear.

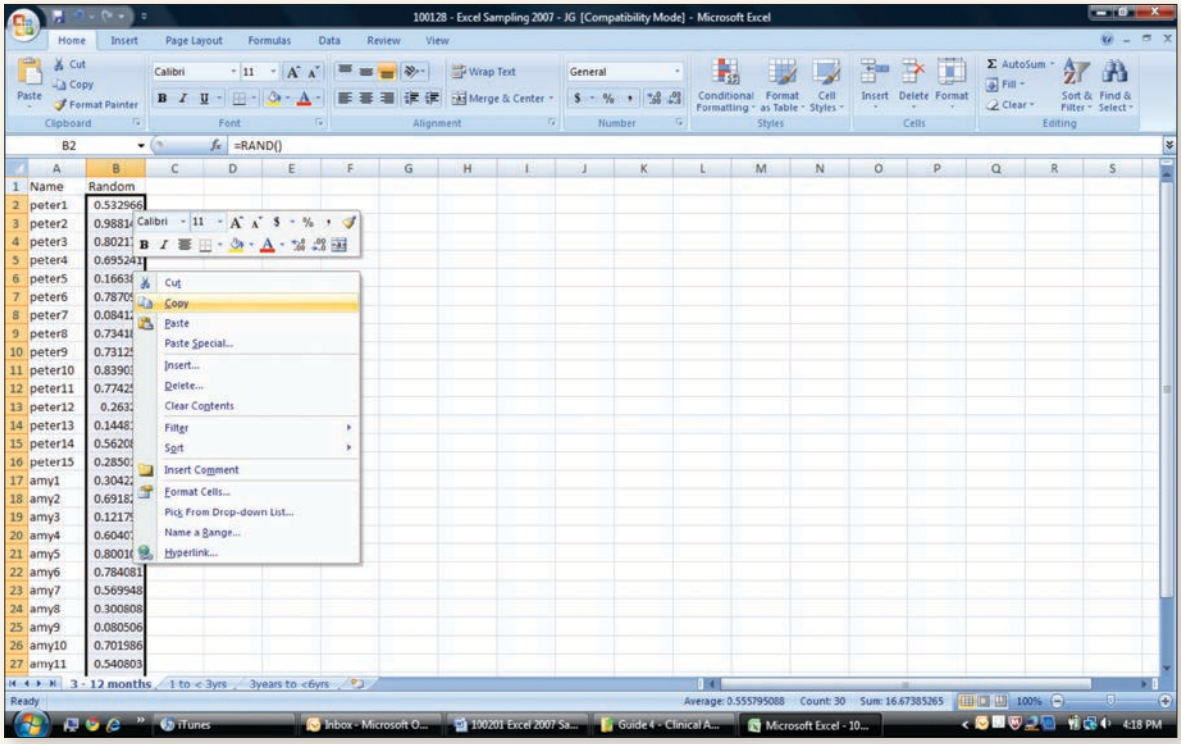
Left click on the mouse, hold down while scrolling down to the last client on the list. + must be visible all the time.

This will copy the calculation of a random number into the cell alongside each client name.

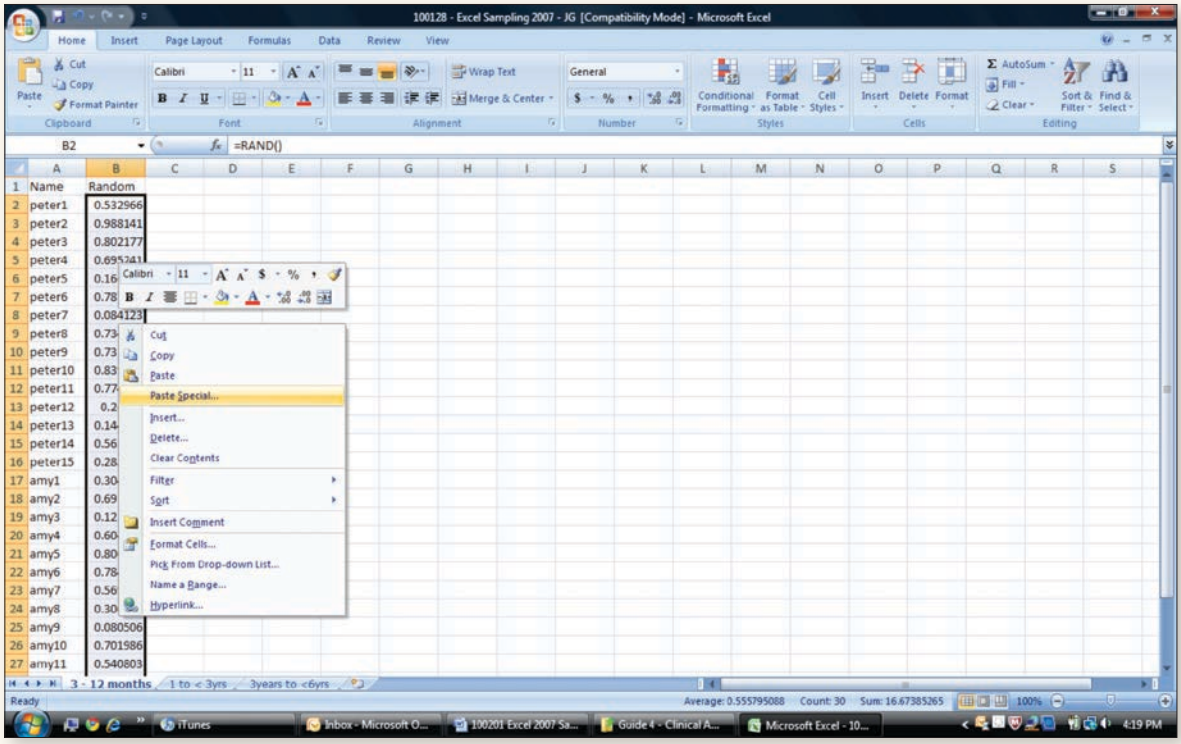


Step 5:

Select the second column (below 'Random') and copy it, by right clicking on the mouse and selecting 'Copy'.

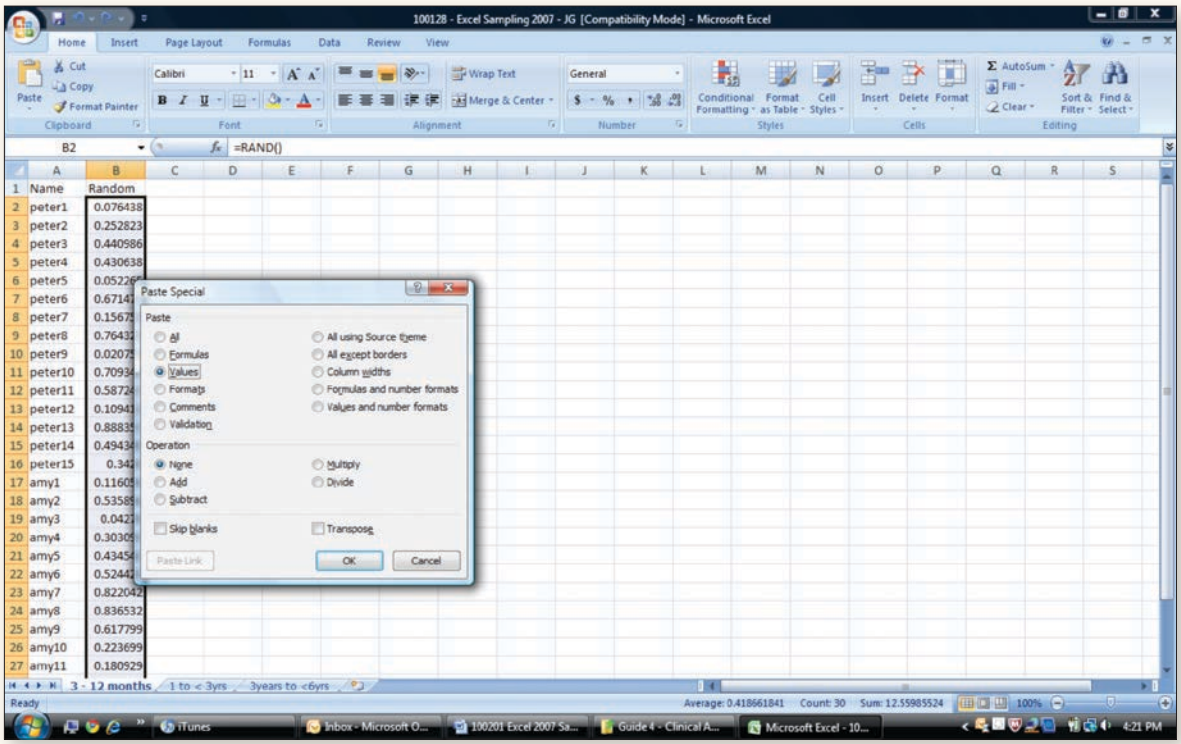


Right click again over the selected column, then choose 'Paste Special'.



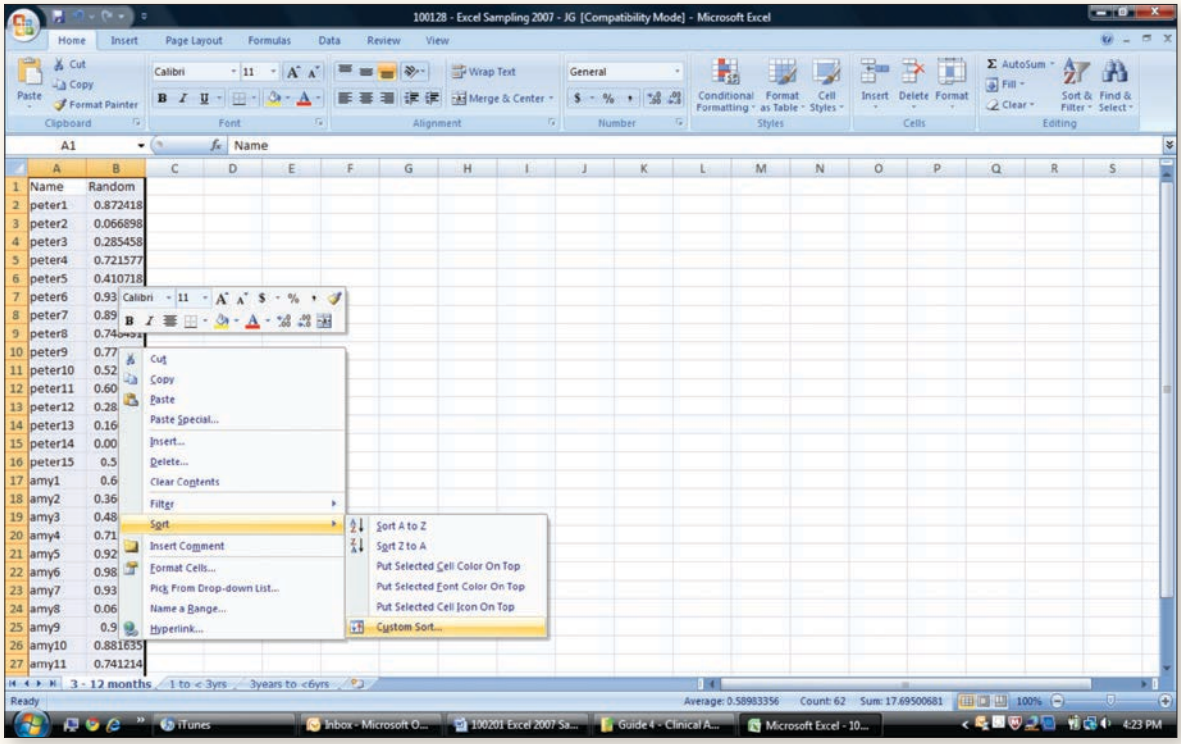
Tick ‘Values’ and select ‘OK’.

This step is very important – it turns the calculation into a ‘real’ number, or value.

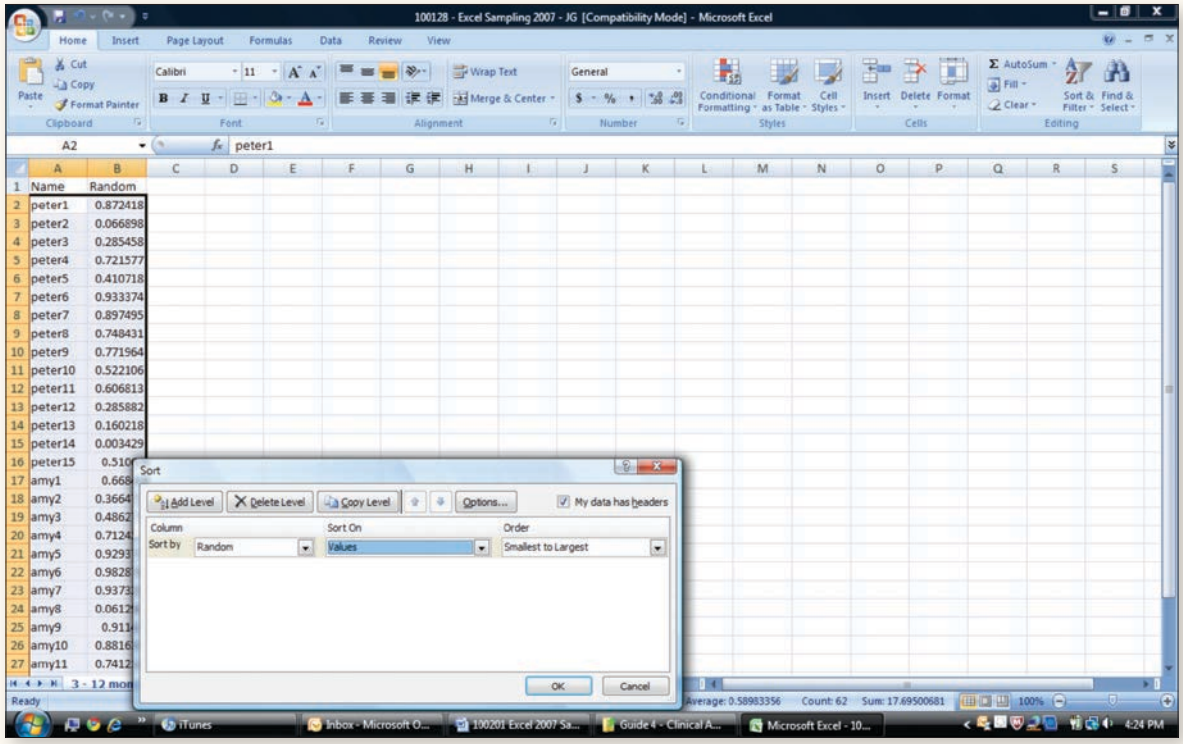


Step 6: Sort the list into a random order

Select the first and second columns, including the headings ‘Name’ and ‘Random’. Click on ‘Sort’ then ‘Custom sort’.

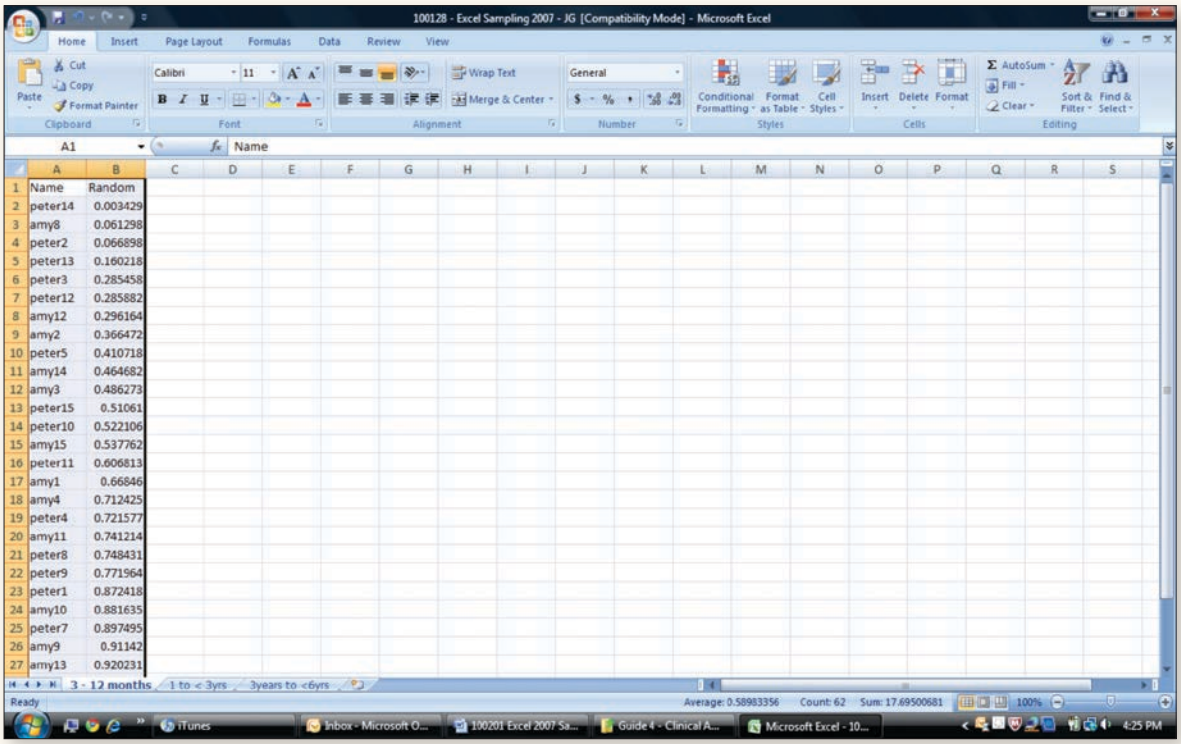


This screen will appear for ‘Custom sort’.



Click on the box ‘Sort by’ and choose the option ‘Random’. Then press ‘OK’.

This will sort the client names into order by the random numbers.



Step 7: Select the sample

Work down the list and select the required number of males and females as defined in the audit protocol for inclusion in the audit.

This will result in the random sample. Complete the same process for each worksheet and age range to get a stratified sample.

Occasionally a client may be included in the random sample who should have been exempt from the sample based on the inclusion or exclusion conditions. If this happens simply set that client record aside and take the next name/number.

Step 8: Create a code connection sheet

Lastly, develop a document that has the name of each client that is included in the audit, their medical record number and then the client identification number that is assigned manually as part of the audit process to ensure privacy for the individual. This can be done in a Microsoft Word® document or Microsoft Excel® spreadsheet.

This document must be kept in a safe place, such as a locked cabinet, so that there can be no invasion of privacy through the connection of an individual's medical record with the audit data entered into the One21seventy web-based information system.

Females			
Number (of audit records)	**Name**	**Medical Record Number** (this is the health centre's medical record number for the client)	**Client ID (place on audit form)** A 3 digit Client ID number is assigned during the audit process. This Client ID is automatically prefixed with your health centre code when the data are entered into the One21seventy web-based information system.
1	Amy12	00145	001
2	Amy 11	00167	002
3	Amy13	00176	003
4	Amy9	00012	004
5	Amy14	00105	005
6	Amy3	01345	006
7	Amy5	00084	007
8	Amy15	00456	008
9	Amy2	01235	009
10	Amy1	00140	010
11	Amy8	00078	011
12	Amy7	00052	012
13	Amy6	04587	013
14	Amy10	00067	014
15	Amy4	03487	015

Males			
Number (of audit records)	**Name**	**Medical Record Number** (this is the health centre's medical record number for the client)	**Client ID (place on audit form)** This is the Client ID number assigned for the audit process.
1	Peter9	00678	016
2	Peter6	00897	017
3	Peter5	00867	018
4	Peter11	00456	019
5	Peter14	00342	020
6	Peter15	00671	021
7	Peter4	00013	022
8	Peter7	00127	023
9	Peter8	00058	024
10	Peter13	00039	025
11	Peter2	00029	026
12	Peter3	00275	027
13	Peter4	00027	028
14	Peter10	00010	029
15	Peter1	00001	030

Section 6:
Systems Assessment

The purpose of this section is to introduce the Systems Assessment Tool (SAT) and describe the process of facilitating a systems assessment.

What's in this section:

Section 6: Systems Assessment

About systems assessment

What is a system?

A system can be defined as a set of interacting parts, which form an integrated whole. Systems can be simple or complex. For example, a wheelbarrow is a simple system, with a few parts mechanically bound together. Human society is a complex system, with numerous parts linked together through sets of relationships. If one part of the system is removed or changed, the nature of the system is changed. The same can be said of organisational systems.

It is widely accepted that quality of care can be seriously limited by poor organisational systems. Improving organisational systems is therefore very important to improving the quality of clinical care.

What is a systems assessment?

A systems assessment is a process through which the strengths and weaknesses of a system can be identified. The purpose of a systems assessment is generally to determine how the functioning of a system might be improved, with the rationale that better functioning systems are more effective in producing the results they are designed to achieve.

Growing evidence from around the world suggests that patients do better when they receive effective treatments, self-management support, and regular follow-up. Organised systems of care, not just individual health care workers, are essential in producing positive outcomes.

The One21seventy Systems Assessment Tool

What is the Systems Assessment Tool?

The One21seventy Systems Assessment Tool (SAT) has been developed to allow local health centres to undertake a structured assessment of the strengths and weaknesses of their systems to support client care. It is based on international and Australian evidence about how health centre systems can achieve high quality care (see Appendix 6A). The tool allows systems assessments to be carried out in a comparable way at different times and in different places, and in a way that covers the key components of health centre systems.

The SAT produces a set of scores and score justifications for a local health centre that are reported along with the results of their clinical audits. Together these reports can be used to:

- identify strengths and weaknesses of the health centre system
- identify priorities for improvement
- develop strategies to address those priorities
- develop action plans for implementation of those strategies.

What are the origins of the One21seventy SAT?

The One21seventy SAT was developed by the Menzies School of Health Research as part of the Audit and Best Practice in Chronic Disease (ABCD) Project. It evolved from the Chronic Care Model and the associated Assessment of Chronic Illness Care (ACIC) tool developed in the United States in the 1990s[1], and from the World Health Organization's (WHO) Innovative Care for Chronic Conditions (ICCC) Framework[2]. (For links to original sources about the Chronic Care Model, the ACIC scale and the ICCC Framework, go to www.one21seventy.org.au, and select the 'CQI and Indigenous health' menu available from the home page before logging in.)

A more detailed description of the origins of the One21seventy SAT is included in Appendix 6A at the end of this section.

What are the components of the One21seventy SAT?

The first step in improving systems is to understand the components of health systems that can promote good quality of care. International experience has identified five key components of health systems to be effective across primary health care in improving the quality of care of clients with chronic illness:

- Delivery system design
- Information systems and decision support
- Self-management support
- Links with the community, other health services and other services and resources
- Organisational influence and integration

These five components are incorporated into the One21seventy SAT. Within each component are a number of items as described in Table 6.1. Each item is scored separately. Items incorporate various elements to prompt discussion; elements can be scored and averaged to determine an item score.

The One21seventy SAT requires different scores and justifications to be made for each audit tool (chronic disease, maternal health, etc.). This is because the quality of systems to support different aspects of care may differ substantially.

[1] Bonomi A, Wagner E, Glasgow R, VonKorff M 2002, 'Assessment of chronic illness care (ACIC): a practical tool to measure quality improvement', *Health Services Research*, vol. 37, no. 3, pp. 791-820.

[2] World Health Organisation 2002, *Innovative care for chronic conditions: building blocks for action*, World Health Organisation, Geneva.

Table 6.1: One21seventy Systems Assessment Tool (SAT) components and items

Components of systems	Items for each component
1. Delivery system design This component refers to the extent to which the design of the health centre's infrastructure, staffing profile and allocation of roles and responsibilities, client flow and care processes maximise the potential effectiveness of the centre.	1. Team structure and function 2. Clinical leadership 3. Appointments and scheduling 4. Care planning 5. Systematic approach to follow-up 6. Continuity of care 7. Client access/cultural competence 8. Physical infrastructure, supplies and equipment.
2. Information systems and decision support This component refers to clinical and other information structures (including structures to support clinical decision making) and processes to support the planning, delivery and coordination of care.	1. Maintenance and use of electronic client list 2. Evidence-based guidelines 3. Specialist–generalist collaborations.
3. Self-management support This component refers to structures and processes that support clients and families to play a major role in maintaining their health, managing their health problems, and achieving safe and healthy environments.	1. Assessment and documentation 2. Self-management education and support, behavioural risk reduction and peer support.
4. Links with the community, other health services and other services and resources This component refers to the extent to which the health centre uses external linkages to inform service planning, links clients to outside resources, works out in the community, and contributes to regional planning and resource development.	1. Communication and cooperation on governance and operation of the health centre and other community-based organisations and programs 2. Linking health centre clients to outside resources 3. Working out in the community 4. Communication and cooperation on regional health planning and development of health resources.
5. Organisational influence and integration This component refers to the use of organisational influence to create a culture and support organisational structures and processes that promote safe, high quality care; and how well all the system components are integrated across the centre.	1. Organisational commitment 2. Quality improvement strategies 3. Integration of health system components.

How is the systems assessment carried out at the local health centre?

The systems assessment can itself be an important change process because it requires local health centre staff and managers to discuss and come to a consensus about how well their systems are working. This may be the only time that this occurs on a whole-of-health-centre basis.

Ideally, a systems assessment will be done with an external facilitator who conducts the systems assessment with all the local health centre staff and managers. This approach enables a sharing of perspectives from all staff about how the health centre systems function. A good facilitator helps to ensure that all members of the group are able to participate and share their views. Different staff may have very different perspectives on how the systems function. Having staff share their perspectives contributes to a wider shared understanding of the strengths and weaknesses in the system. It is worth trying to find a time when everyone can participate in the systems assessment.

A few days before the systems assessment confirm with the health centre the dates, times and names of those attending.

What happens to the systems assessment data once collected?

Data input

The systems assessment scores and justifications are entered into the One21seventy web-based information system (www.one21seventy.org.au) in the 'Input Data' section.

Data input can be done by:

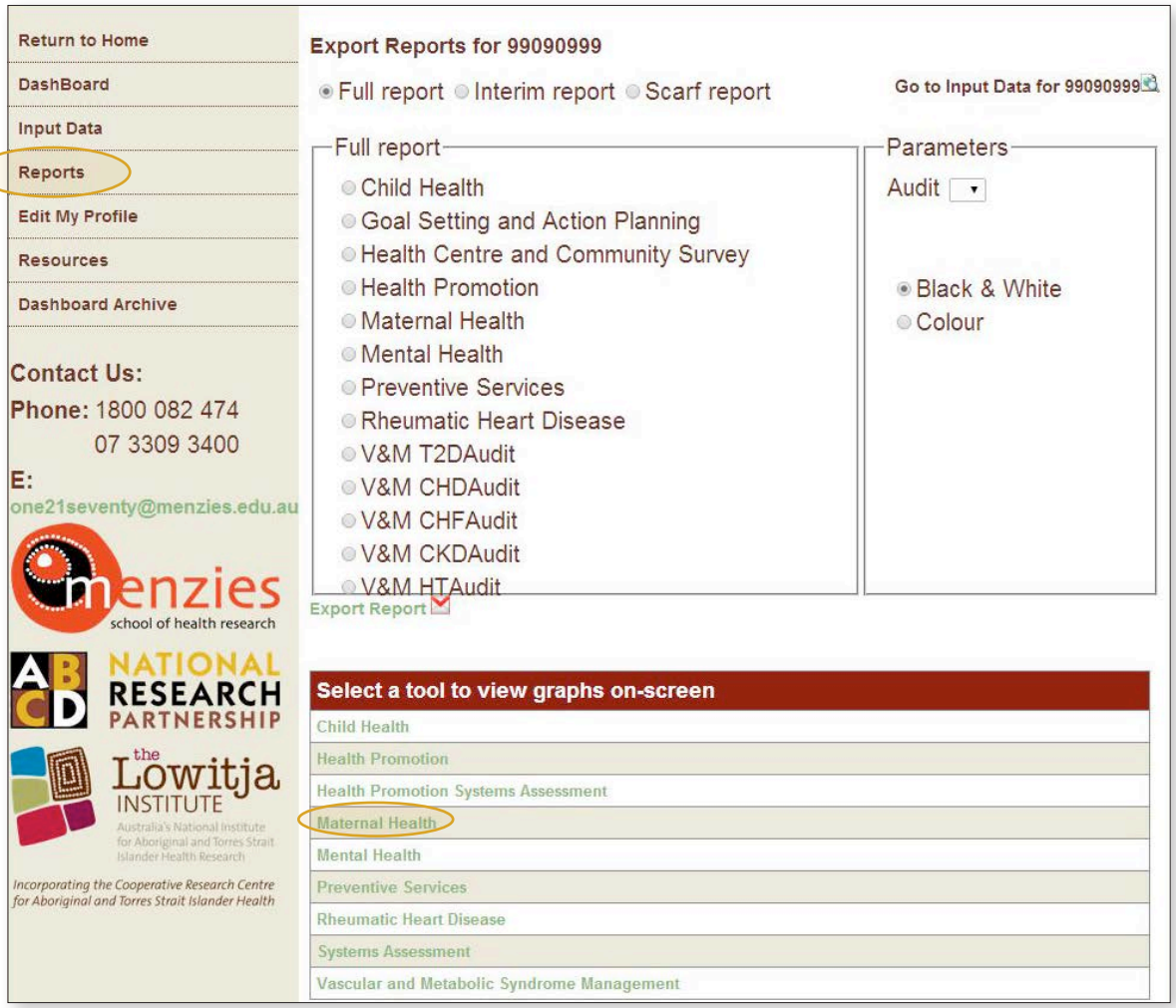
- A staff member or designated scribe who is able to accurately reflect the scoring and justifications of the systems assessment.
- The facilitator of the systems assessment.

Generating reports

The relevant SAT component results can be viewed on screen in the One21seventy web-based information system, and are presented at the end of the downloadable report for each clinical audit tool. When an audit report is generated, the web-based information system will look for a systems assessment completed within three months before or after the date of that audit, and include that systems assessment report within the audit report. To view systems assessment component results on screen, go to the 'Reports' section of the One21seventy web-based information system (www.one21seventy.org.au).

For an explanation of radar plots and how to read them, see Section 7, 'Participatory Interpretation'.

Keep in mind that data entry for the One21seventy SAT is an opportunity to build capacity and ownership of data by the local health centre.



Using the systems assessment data

During participatory interpretation, SAT data are considered alongside the clinical audit data to create a picture of how the clinical strengths and weaknesses are underpinned by the system structures and processes the local health centre has in place. Participatory interpretation is followed by the 'Goal Setting and Action Planning' stage of the One21seventy CQI cycle. Drawing on the clinical audit data and the scores and score justifications from the SAT, priorities for action are determined and plans made for changes to health centre systems over the coming period. The implementation of such actions should be reflected by improvements in later SAT scores, although improvement will usually be measured slowly rather than in dramatic jumps.

Step-by-step: Facilitating a systems assessment

These step-by-step instructions are to assist those who facilitate systems assessment for a local health centre.

Step 1: Preparing for a systems assessment

A few simple preparations will help facilitators get the most out of the systems assessment process for the local health centre staff and managers.

- ❑ Review the SAT and scoring form—download the current version from the One21seventy web-based information system (www.one21seventy.org.au), 'Resources' section.
- ❑ Arrange and subsequently confirm the availability of health centre staff and the time and place for the systems assessment.
- ❑ Find out who will be attending, and what their roles at the health centre are.
- ❑ Check the suitability of the room, availability of any resources needed (such as a data projector, butcher's paper, or a whiteboard) and make arrangements for refreshments to be available.
- ❑ Check how much time has been allocated for the session and plan the session accordingly.
- ❑ If possible, arrange for a senior manager or even a Board member to introduce the session. This will convey the importance that the health centre places on the process.

Identify a scribe

If possible, have a designated scribe identified prior to the systems assessment session. The scribe's role is to write down the agreed scores and justifications as to why the score has been allocated by the group.

The scribe needs to be someone trusted by the group. It is a job that may be difficult for anyone who is not experienced in summarising information from what may be a robust discussion. There are techniques for making sure that the group is happy with what has been recorded, such as:

- Reading back to the group what has been written down and checking with the group it is correct: "Does that capture what you've agreed?" or "Have I got that right?"
- Writing the scores and justifications for the scores onto a whiteboard or directly into the scoring form projected onto a screen by a data projector.

Another alternative is for the facilitator to be the scribe, though this can be difficult if there is a lot of lively debate.

Step 2: Decide how the systems assessment will be scored

There are two different approaches to scoring a One21seventy systems assessment at a local health centre. It is preferable to determine which method will be used prior to the systems assessment session, so that there is no confusion about the approach. Facilitators should discuss the approach to be used with the local health centre key contact or managers.

How are the SAT items scored?

The One21seventy SAT measures the degree of support provided through the systems related to each item in the five components, with a score ranging from 0–11. The higher the score, the better the system.

The scores are sub-divided into four categories, defined as:

- **limited or no support** (a score of 0–2)
- **basic support** (a score of 3–5)
- **good support** (a score of 6–8)
- **fully developed support** (a score of 9–11).

The system elements that make up each item are listed under the item heading.

The One21seventy SAT includes brief descriptors to help the health centre staff decide on the category of support their existing systems provide, and agree a score within the level they think best represents the systems in their centre. The facilitator helps the group reach a consensus score.

The scoring for each item can be done in one of two ways:

- **Approach One:** Come to a consensus on item scores after discussion about the elements and relative importance of each to the item score.
- **Approach Two:** Calculate the average of scores for all of the elements within the item.

There are pros and cons to each of the approaches. Facilitators should take into account which approach is most suited to their own style and to the staff and circumstances of the health centre with which they are working. Alternatively, a combination of the approaches can be used; for example if consensus of an item score cannot be reached using Approach One, Approach Two may be used to initiate discussion and agreement of a score for each element and then average element scores to determine the item score.

Approach One: Come to a consensus on item scores

This approach involves a facilitated discussion to help the group reach agreement on an item score after discussion about the scores and relative importance of each element to the overall item score.

Approach one will require skilled facilitation and knowledge of the health centre environment, it may be more challenging for the facilitator, but should be less time consuming than Approach two.

The challenge is that different people in the group may have different views on the relative importance of each element to the overall item score. Some may have more forceful personalities and may exert undue influence on the outcome of the discussion. Facilitators need to ensure that the consensus score is a fair reflection of the views of all people in the group. (See Section 10, 'Facilitation', for more information on facilitation techniques.)

Approach Two: Calculate the average score

Item scores are calculated by adding together the element scores and dividing the total by the number of elements.

For example, in Component 1 ('Delivery System Design'), Item 1.1 ('Team structure and function') there are five elements:

- approach
- leadership
- roles and responsibilities
- communication and cohesion
- developing skills and roles

During the systems assessment, each of the elements will be given a score between 0 and 11 (for example, these scores may be 4, 6, 4, 7 and 2, respectively).

The calculation of the item score is done by adding the score for all five elements together (for example 4+6+4+7+2 = 23). This total is then divided by the number of elements (5) in this item (for example, 23/5 = 4.6, or 5 when rounded to a whole number).

The advantage of this approach is that it is an easy mathematical way of getting a score for each of the items. However, there are a number of issues to consider in using this average score approach:

- For the average of the element scores to be a good reflection of the overall item score assumes that the scores of 0 to 11 are evenly spaced measures of the state of development of each particular element that makes up the item score.
- It also assumes that each of the elements is of equal relative importance in the assessment of the overall item.

These conditions may not necessarily be met, so the average score for the elements in the item is not necessarily a good overall reflection of the overall item.

Approach two requires skilled facilitation, and may be more time consuming than Approach one. However, the benefit of approach two is that the dialogue may result in a better shared understanding among health centre staff about existing health centre systems, their relative importance to the quality of care provided, their relative state of development, and potential for improvement.

The challenge is that different people in the group may have different views on the relative importance of each element to the overall item score. Some may have more forceful personalities and may exert undue influence on the outcome of the discussion. Facilitators need to ensure that the consensus score is a fair reflection of the views of all people in the group. (See Section 10, 'Facilitation', for more information on facilitation techniques.)

Achieving a meaningful score

It is common that when a local health centre begins using the One21seventy SAT, its agreed scores may be below '5' on some (or all) items. After all, if all health centre systems worked perfectly and everyone provided optimal care, there would be no need for quality improvement programs.

It is also common for local health centre staff to initially believe they are providing better care than they actually are. As local health centres continue to use the SAT, staff and managers will become more familiar with what an effective health centre system involves.

Health centres SAT scores may decline initially, even though they have made improvements. This is most likely the result of their improved understanding of what a good system of care looks like. Over time, as the understanding of good care increases, and effective changes are implemented, the SAT score should start to rise again.

An important aspect of facilitating the SAT is encouraging the health centre staff and managers to arrive at a consensus decision on system development and to provide a score based on the information discussed in reaching that consensus. (See Section 10, 'Facilitation', for information on effective facilitation.)

Once a consensus score for an item has been reached, the score is entered by the designated scribe onto the scoring form along with a justification that explains why that score was given.

It is important to record score justifications, so that the meaning is clear at the time of doing the systems assessment and when the SAT results are reviewed at a later date. Clear and meaningful recording enhances the value of the SAT for the purpose of improving systems.

A useful way to ensure score justifications are meaningful is to discuss and then record the structures and processes the centre has or doesn't yet have for each SAT item. The score justification recorded should reflect the score decided by the participating staff.

Step 3: Facilitating the systems assessment session

Introductions and explanations

Ideally, a senior manager or even a health centre board member will be at the session and introduce the session and the facilitator.

The facilitator's role in the session begins with introductions:

- Carry out introductions.
- Set out the purpose of the session.
- Briefly explain:
    - The definition of a system and why organisational systems are important in health care.
    - What a systems assessment is and why it is useful to a health centre.
    - What the One21seventy Systems Assessment Tool (SAT) is and how it was developed.
    - The components and items of a One21seventy systems assessment tool and score sheet. Showing these from a data projector or handing some copies round can help health centre staff understand how the assessment is done.
    - How the scores and justifications will be determined. Explain everyone will have the opportunity to contribute their perspective before the group decides on a consensus score.
    - What happens to the systems assessment data after the session.
    - How the results are reported and how that information can be used.

It is courtesy to acknowledge the traditional owners of the area in an introduction, but spend some time practicing the pronunciation of the name/s so as not to cause offence.

While working through the SAT items, ask the group what would be needed to get a better score. Record this on a whiteboard or butcher's paper. These ideas can be used in conjunction with audit reports for action planning.

Health centres might set themselves the challenge of suggesting ways to improve in any area where they score less than 5

- Establish the 'ground rules' for the session and the role of the facilitator. (See Section 10, 'Facilitation', for more information on facilitation techniques.)

- If necessary, get the group to confirm the scribe and show him/her the layout of the score sheet and what to do. Ask the scribe to begin by completing the names and positions of participating staff. (This may have been done prior to beginning the session.)

Working through the components and items

- Start with any component and item. Work with the group in order for them to decide which of the score descriptors best reflects their current situation and help them to reach a consensus.

- Ask the scribe to record the score in the appropriate box on the scoring form.

- Summarise back to the group what is to be recorded about the justification for that score, and get consensus that it is accurate.

- Continue to move through the components and items of the SAT.

- At the completion of the SAT, inform the group that the information recorded by the scribe will be entered onto the One21seventy web-based information system and that a full report will be sent back to the key contact person at the local health centre.

- Briefly revisit the stages and actions of the One21seventy CQI cycle which follow the completion of the systems assessment.

Appendix 6A: History of the One21seventy Systems Assessment Tool (SAT)

The One21seventy Systems Assessment Tool (SAT) has evolved from the Chronic Care Model and the associated Assessment of Chronic Illness Care (ACIC) tool developed in the United States, and from the WHO Innovative Care for Chronic Conditions (ICCC) Framework.

It was originally designed for assessing systems for chronic disease care, and then adapted for use in maternal and child health.

The Chronic Care Model and the ACIC scale

In the late 1990s, the MacColl Institute in the United States developed a tool for assessment of organisational systems relevant to chronic illness care: The Assessment of Chronic Illness Care (ACIC) scale[3]. The ACIC scale addresses the basic elements for improving chronic illness care at community, organisation, practice and client levels.

The ACIC scale was developed from earlier work by the same group: the Chronic Care Model. The Chronic Care Model identified six system elements of a primary health care organisation that should support high-quality chronic illness care.

The Chronic Care Model has been the subject of wide international attention and formed the basis of a World Health Organisation (WHO) framework for Innovative Care of Chronic Conditions (ICCC)[4].

The ICCC framework includes attention to the broader policy environment: legislation, financial arrangements for service provision, governance, relationships and collaborations, governmental support, and workforce education.

For more information and links to original sources about the Chronic Care Model, the ACIC scale and the ICCC Framework, go to the Resources Library at www.one21seventy.org.au

[3] Bonomi A, Wagner E, Glasgow R, VonKorff M 200 2, 'Assessment of chronic illness care (ACIC): a practical tool to measure quality improvement', *Health Services Research*, vol. 37, no. 3, pp. 791-820.

[4] World Health Organisation 2002, *Innovative care for chronic conditions: building blocks for action*, World Health Organisation, Geneva.

Development of the One21seventy Systems Assessment Tool

The One21seventy Systems Assessment Tool was developed as part of the ABCD project (See Section 2, 'Introduction to One21seventy'), drawing on the MacColl Institute's ACIC model and the WHO's ICCC Framework. These were found to be highly relevant to the Australian Indigenous primary care environment[5].

An adapted version of the ACIC tool was used in the original ABCD Project. Over time, the SAT was adapted and refined to maximise its suitability to the local context, and for use with clinical audits across a range of areas.

[5] Si D, Bailie R, Connors C, Dowden M, Stewart A, Robinson G, Cunningham J, Weeramanthri T 2005, 'Assessing health centre systems for guiding improvement in diabetes care', BMC Health Services Research, vol. 5, article 56.

Section 7: Participatory Interpretation of Reports

The purpose of this section is to explain how to read the data presented in audit reports and how to ensure health centre staff are able to understand what the data mean for their centre.

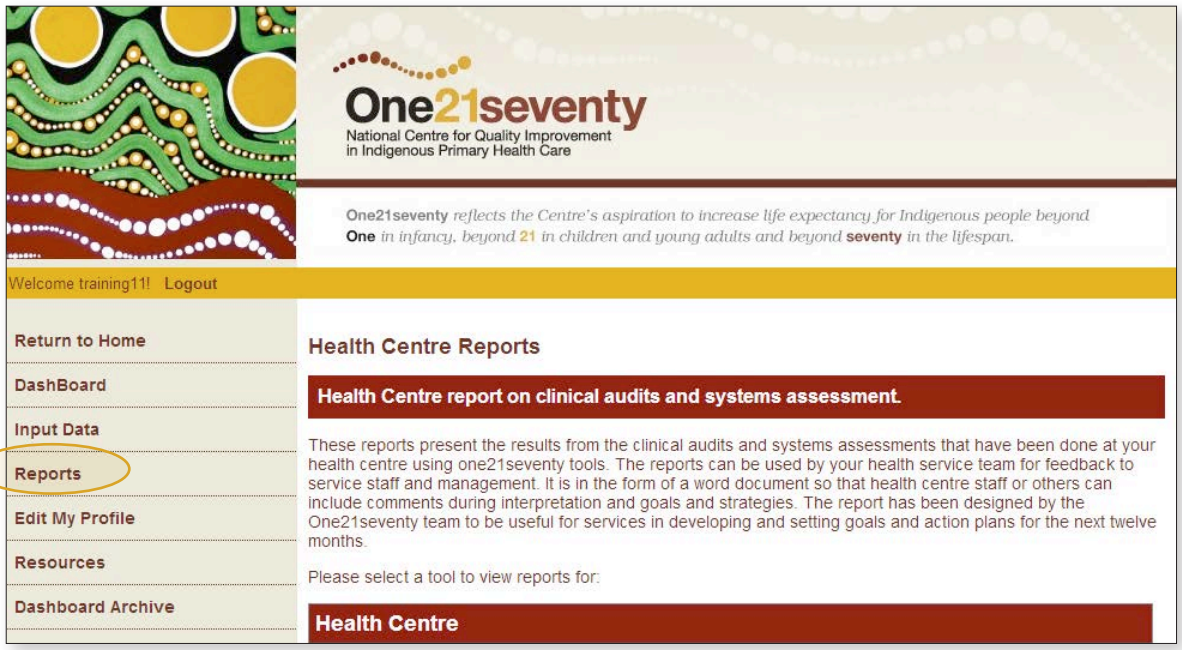
Interpretation of reports will occur at different points in the cycle, but most significantly in Stages 4 and 5 of the One21seventy CQI cycle.

What's in this section

Section 7: Participatory Interpretation of Reports

About One21seventy reports

The One21seventy web-based information system generates reports for each clinical audit tool and its related systems assessment, along with relevant goals and strategies from the previous cycle. These can be downloaded from the 'Reports' section of the site (www.one21seventy.org.au).



Examples of the ways that information is presented in the reports are included in the following pages with explanations about how to read and interpret them.

What does each report contain?

Each **audit report** contains a series of graphs and tables presenting the data from the clinical audit. This includes:

- Summaries of some groups of data, for example, 'Average Percentage of All Scheduled Services and Investigations'. These summaries provide an average percentage of the specific services received by clients.

- A table of raw data that shows the results for every question in the audit.

Systems assessment data are presented at the end of the related clinical audit. (For example, the chronic illness management systems assessment is presented after the vascular and metabolic syndrome management (diabetes type 2) clinical audit, as this systems assessment is about the health centre's systems to support delivery of chronic disease care.)

The systems assessment section of the report includes:

- Summary scores for each component within the systems assessment, for example, 'Information systems and decision support'. These are presented as a radar plot that looks like a spider's web. The radar plot provides a useful way of seeing progress over time across a range of different measures.

- Scores and justifications for individual items within the systems assessment. These are presented in tables.

A table is included to record current goals and strategies, which can then be entered in the One21seventy web-based information system.

Results from the **Health Centre and Community Survey** (HCCS) are reported separately in a series of tables, and provide contextual information that is useful in interpreting audit reports.

Reading the data

This section begins by explaining how to read the graphs and tables presented in the reports of audit and systems assessment data. It is followed by a section that explains the meaning of the data contained in the graphs and tables.

The meanings of some of the terms used in these sections may not be familiar to everyone. Terms such as 'percentage', 'denominator', or 'radar plot' are explained in the glossary to this manual as well as within this section. If there are terms that are unclear but not in the glossary, please report using the 'Feedback' section of the One21seventy web-based information system (www.one21seventy.org.au) and the term/s can be added to the next update of the training manual (see next page).

Reading a bar graph

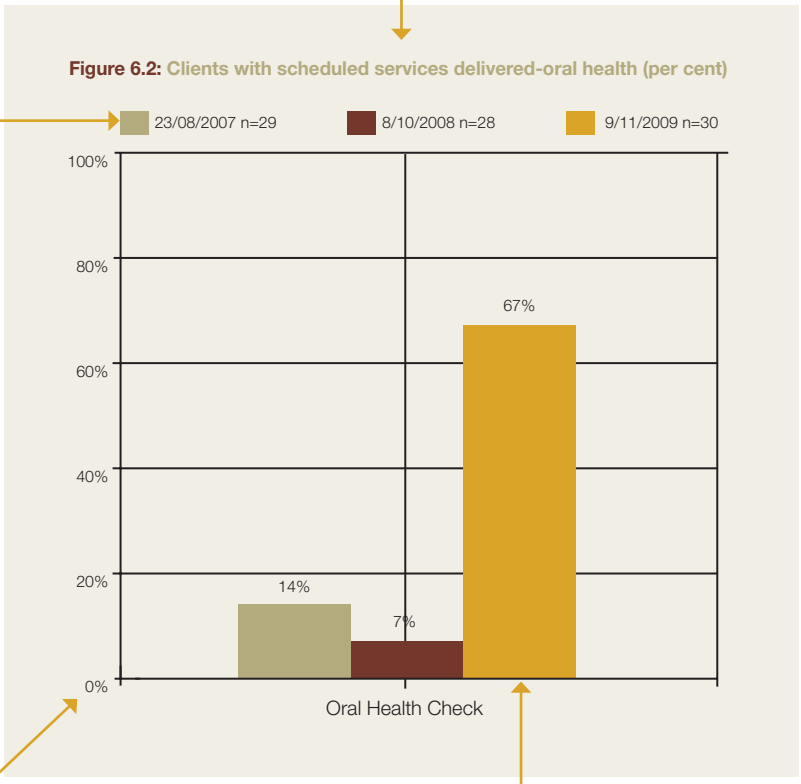
A bar graph is used to display results so they can be easily understood and compared.

Example: Normal bar graph

A graph is labelled a Figure when presented in a report. The label appears above the graph, and explains what the graph shows. In this case, the label tells us that the graph is about the **percentage** of the health centre's clients who received scheduled services for oral health.

This label '23/08/2007 n=29' shows the audit date and number of client records that have been included in the **sample**. This number is also known as the **denominator**.

This label also identifies the meaning of each colour or shade used in the graph. In this example, beige indicates the results for 2007, maroon represents 2008, and yellow 2009. This is called the **key** or **legend**.



The numbers along the left hand side of the graph indicate what measurement is being used in the graph. In this case, it is a **percentage**. This vertical line of measurements is called the **vertical axis** or **y axis**.

These are the 'bars' after which the graph is named. They provide a picture of the data collected through the audit. Here they show the **percentage** of clients (within the number of client records sampled in each year) who received the scheduled service (in this case the oral health check).

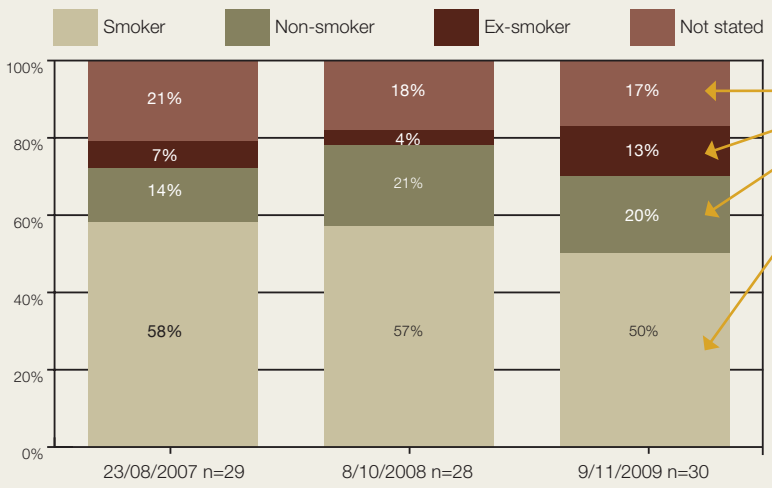
This example shows that 14% of the 29 clients whose records were audited in 2007 received the scheduled oral health check; and the corresponding information for 2008 was 7% of 28 clients. In 2009, 67% of the 30 client records audited showed that oral health checks were carried out.

Another type of bar graph used in the audit reports is the **stacked bar graph**, also known as a divided or segmented bar graph. These graphs are used to show how the total sample has been spread over certain categories or indicators.

In Figure 7.2, the key shows that different colours are being used to represent the different categories of smoking status, rather than different years as in the previous graph. The stacked bar graph shows that in 2007, 29 client records were audited. Of these, 58% were recorded as smokers, 14% as non-smokers, 7% as ex-smokers and that for 21%, nothing was recorded in relation to smoking status. The results for 2008 and 2009 are fairly similar. The stacked bar graph makes it very easy to see that most clients were smokers.

Example: Stacked bar graph

Figure 7.2: Smoking status within the last 12 months (per cent of clients)



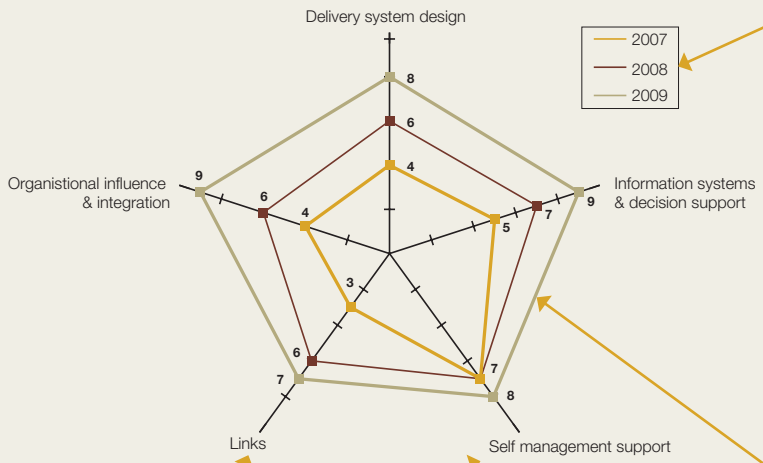
The stacked bar graph puts each category or indicator on top of each other.

Reading a radar plot

A **radar plot** is used to present the overall scores for the components of the systems assessment. These graph types are sometimes described as 'spider', 'web' or 'star' charts (or plots). They show how an organisation is performing in a range of different areas and make it clear where the organisation's current strengths and weaknesses are.

Figure 7.3 shows that over three years (2007-2009), the health centre steadily increased its self-assessed score in all five components of the systems assessment. The earliest systems assessment, carried out in 2007, indicates there was greater confidence in the health centre's 'Self management support' systems (scored as 7) than its systems for 'Links' with the community or external organisations (scored as 3). By 2009, all components were scored 7 or above.

Figure 7.3: Chronic illness management component scores



Like the bar graph, the radar plot has a label that explains what the graph is about, and a **key** that explains how each cycle's results are represented in the graph.

Changes in the health centre's performance over time are indicated by where the lines are placed for each cycle.

The five **axes** or arms radiating from the centre of the radar plot each show the measurements for one of the components of the systems assessment. The measures are counted outwards from 0 to 11, with 0 the lowest score and 11 the highest.

Reading raw data tables

When raw data are presented in tables in the audit report, the numbers are usually represented in two ways:

- The numbers are expressed as a **percentage** (%).
- Actual numbers are shown in brackets after the percentage. There are two numbers shown, for example (6/30). These numbers are the **numerator** and the **denominator**.

These numbers help clarify precisely what is being reported. Understanding how to read these numbers makes interpreting audit reports much easier. (See below under **Percentages** for an explanation of numerators and denominators and why they are important.)

The raw data tables also provide the average scores recorded by health centres in One21seventy by local cluster, State/Territory and nationally for each indicator.

Figure 7.4: Raw data table from clinical audit report

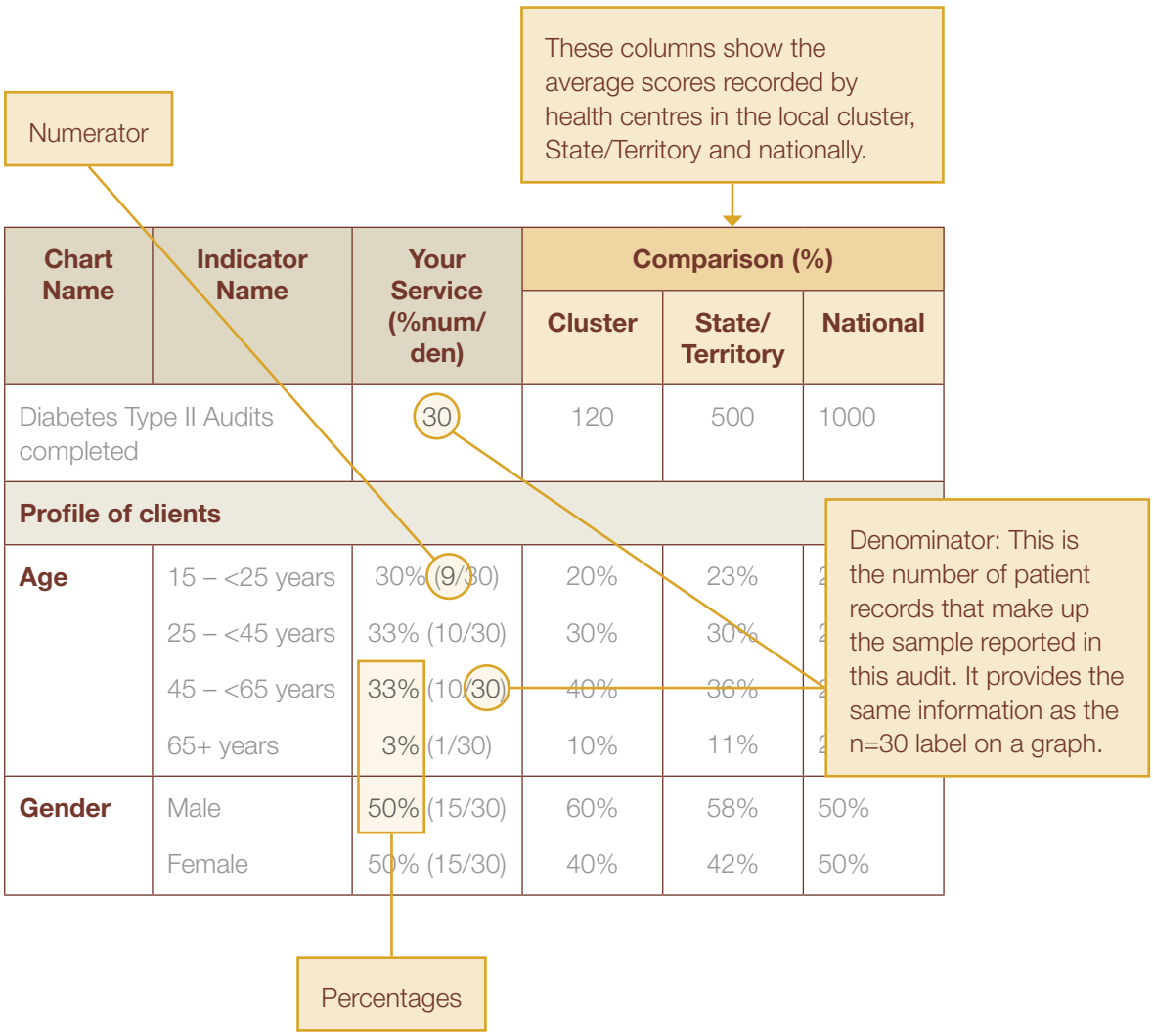


Chart Name	Indicator Name	Your Service (%num/den)	Comparison (%)		
			Cluster	State/ Territory	National
Diabetes Type II Audits completed		30	120	500	1000
Profile of clients					
Age	15 – <25 years	30% (9/30)	20%	23%	
	25 – <45 years	33% (10/30)	30%	30%	
	45 – <65 years	33% (10/30)	40%	36%	
	65+ years	3% (1/30)	10%	11%	
Gender	Male	50% (15/30)	60%	58%	50%
	Female	50% (15/30)	40%	42%	50%

Understanding data in audit reports

Percentages/per cent (%)

A percentage is worked out by doing a mathematical calculation.

The number of records for which a specified requirement was met (for example, six patients in the sample had their blood pressure checked within the past 12 months) is divided by the total number of records sampled (for example, n=30). This is then multiplied by 100:

6÷30 = 0.2

(This can also be shown as: $\frac{6}{30}$ **= 0.2**)

0.2 x 100 = 20 per cent

The top number is the **numerator**—the number of records for which the specified requirement was met.

The bottom number is the **denominator**—the total number of records sampled (n=30).

A percentage is like a translation of the raw numbers in the audit into a form in which the data can be more easily compared. For example, if four out of ten patients had their blood pressure checked within the past 12 months, 40 per cent of patients had their blood pressure checked. That indicator can then be easily compared with another, even if the other indicator involves different numbers. For example: eight out of twenty patients had their waist measured. This is also equivalent to 40 per cent. That suggests the health centre is performing just as well (or poorly) for both of these indicators.

Interpreting percentages in audit reports

As shown above, the **numerator** and **denominator** used to work out a percentage provide important information about the size of the sample and the number of records that have met specific requirements within that sample.

This is particularly important because for some indicators, the results will be a subset of a sample—a smaller group within a sample. For example, for a diabetes audit the sample size may be thirty client records. Of these, an audit showed that 15 had their blood pressure measured within the previous 12 months. The numerator is 15, the denominator 30.

$\frac{15}{30}$ (In the raw data table, this is shown as (15/30)

The next indicator in the report may be blood pressure readings recorded for **those fifteen clients who had their blood pressure checked**. Five of those fifteen had blood pressure recorded of less than 130/80. In this case, the numerator is 5, and the denominator 15.

$$\frac{5}{15}$$ (In the raw data table, this is shown as (5/15)

The denominator for this calculation is **only those 15 clients who had a blood pressure measurement recorded in the previous 12 months**, rather than the whole group of 30 diabetes records audited.

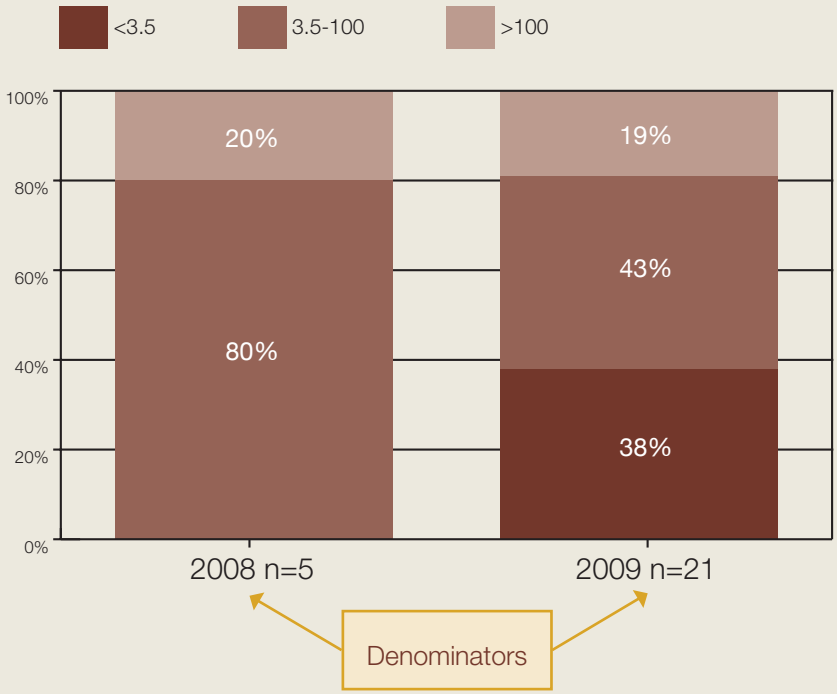
Being aware of the denominator is particularly important in interpreting the differences in percentages between health centres or over time.

If the number of client records included within a particular sample is less than 5, the One21seventy web-based information system will not generate graphs for those indicators. This is to avoid any misinterpretation that may occur when looking at graphs drawn from very small sample numbers. However the data are still reported in the raw data table as percentages, numerators and denominators.

Example: why it's important to be able to read the denominator

The graph below shows Albumin Creatinine Ratio (ACR) results for those people with diabetes who had an ACR investigation undertaken in the past 12 months.

Figure 7.5: ACR results within last 12 months (per cent of clients)



A quick glance at these two stacked bar graphs might suggest that there was a dramatic improvement in diabetes management between 2008 and 2009: 38% of clients recorded normal ACR results of less than 3.5 in 2009, whereas in 2008 no clients recorded normal results.

However, by considering the denominator for each year it becomes clear that in 2008 there were only five people with diabetes who had an ACR test, compared with 21 clients in 2009. As a result, this graph cannot be used to compare data about the health of patients between 2008 and 2009, because there is such a difference between the number of clients tested (the denominator) in each year. The graph does show there was a significant increase in ACR testing in 2009 (from 5 in 2008 to 21 in 2009). This may have been the result of a goal set in 2008.

The denominator is also important when considering very small samples. For example, an audit report may show that 50% of clients who had their blood pressure measured in the past 12 months had an abnormal result. If this was based on a denominator of only two clients, it would mean that only one person had an abnormal result: a fairly meaningless result. The more important meaning to be drawn from these data is that only two people had their blood pressure measured in the past 12 months.

Understanding how data were collected

It is important that those people involved in interpreting the reports understand the process used for sampling and conducting audits.

The size of the sample in relation to the number of eligible clients for each specific audit has implications for how well the audit data will reflect the true conditions at the health centre.

Those staff interpreting the reports should also be familiar with the sample selection criteria for each audit, as this can explain local discrepancies or unfulfilled expectations about the results.

For example, health centres may have different approaches to defining their client population. A health centre that bases its sampling on a list of clients who are regular attendees should be aware of the potential significance of this when comparing their audit findings with a health centre that includes all people within a defined geographic area on their client list.

More detail about sample selection and audit methods is contained in Section 5, 'Clinical Audits'.

Participatory interpretation of reports

What does participatory interpretation of reports mean?

Interpreting reports means looking at data (for example, numbers and percentages) and reading the story that they tell about a local health centre and its clients.

The audit data from each local health centre are of course directly relevant to that specific centre. However, the report generated from the One21seventy web-based information system simply presents these data in a series of charts and tables. Their meaning needs to be interpreted and explained by people who understand:

- clinical practice
- the local health centre context
- basic statistics.

A participatory approach to report interpretation is when as many staff as possible are involved in the process of working out what the report means in the local context.

Why is participatory interpretation of reports important?

The participatory interpretation of reports is important because it:

- tells the story of the data from the local health centre's perspective
- helps to build a better understanding of health information by all health centre staff
- provides health centre staff with a meaningful picture of their centre's performance within its particular environment and in the broader primary care context
- encourages staff to reflect on the relevance and importance of using data to inform potential improvements in quality of care provided for clients
- helps differentiate between what is **clinically** significant and what is **statistically** significant. For example, an increase in attendance rates may not be statistically significant, but to the health centre it may be significant because it shows a trend that is consistent with their efforts to improve attendance and with their experience on the ground.
- allows comparison between similar health centres at a cluster, State/Territory or national level, as well as comparing the local health centre's results to those of previous cycles.

Who should be involved in the report interpretation?

It is essential that the interpretation of reports is locally driven in a way that maximises the expertise available.

The audit report contains an enormous amount of information, which can be difficult to understand all at once. A useful first step is for a person or group of people with the appropriate expertise to do an initial summary of the data by explaining the meaning and showing the significance of the information in terms of relevance to clinical care and population health outcomes.

This group approach might include a local health centre clinician, a leader of the Indigenous workforce, a nursing leader, and/or a data advisor.

The summarised data should then be presented to a group that includes as many of the health centre staff and managers as possible. The group approach provides an opportunity for many views to be generated about the information.

When and how should data be interpreted?

Interpretation of reports can be done in a staged approach as different data are collected and become available, or it can be done when data collection is complete and the entire report is available.

Some examples of when and how health centres carry out the interpretation of data are described below. These approaches are not intended to be prescriptive, but illustrate different ways of achieving the same result: local information sharing about local service delivery to the local population.

Facilitators should seek to ensure that the process suits the needs of the health centre, provides information that is clear and easy to understand, and guides the next step of goal setting and action planning.

It is important that health centre managers decide on the interpretation method that best suits the local situation. Factors such as timing, staff numbers, and existing organisational planning methods might influence when and how a health centre prefers to do the interpretation process.

Scenario 1: Between the audit and systems assessment

Some health centres choose to interpret the clinical audit data before doing the systems assessment. In this way, their assessment of the health centre's systems can be informed by what they have learned from the clinical audit.

In this approach:

- The audit report, key messages and challenges are explained to health centre staff at a separate session held prior to doing the systems assessment. This explanation may be done by senior health centre staff who have carried out an initial interpretation or by a facilitator, or both.
- Health centre staff are able to add their perspectives on what the data mean, and identify additional challenges.
- When the systems assessment is carried out (at a later date), it is an opportunity to discuss the information more fully after staff have had time to reflect on what the audit data mean.

Scenario 2: During the systems assessment

This is similar to Scenario 1, except that the clinical audit data are interpreted and fed back in the same session as the systems assessment occurs. That is, there is no gap in time between the feedback and interpretation phase and subsequent systems assessment.

Scenario 3: After the audit and systems assessment, as part of the goal-setting process

Interpretation of data is done after both the clinical audit and systems assessment data collection are complete. This can help staff see the relationship between systems and clinical practice and outcomes. It also feeds directly into the goal-setting and action planning process.

In this scenario:

- The key messages and challenges include those that emerge from looking at the systems assessment data and the clinical audit data together.
- As in Scenario 1, the initial interpretation can be presented to the broader group of staff by senior health centre staff, a facilitator, or both.
- As staff go through the information, areas for improvement and potential goals and strategies can be identified and documented.

The importance of local knowledge in interpreting reports

It is vital that reports are interpreted in the context of the local service delivery model. This section provides examples that illustrate why this is so important.

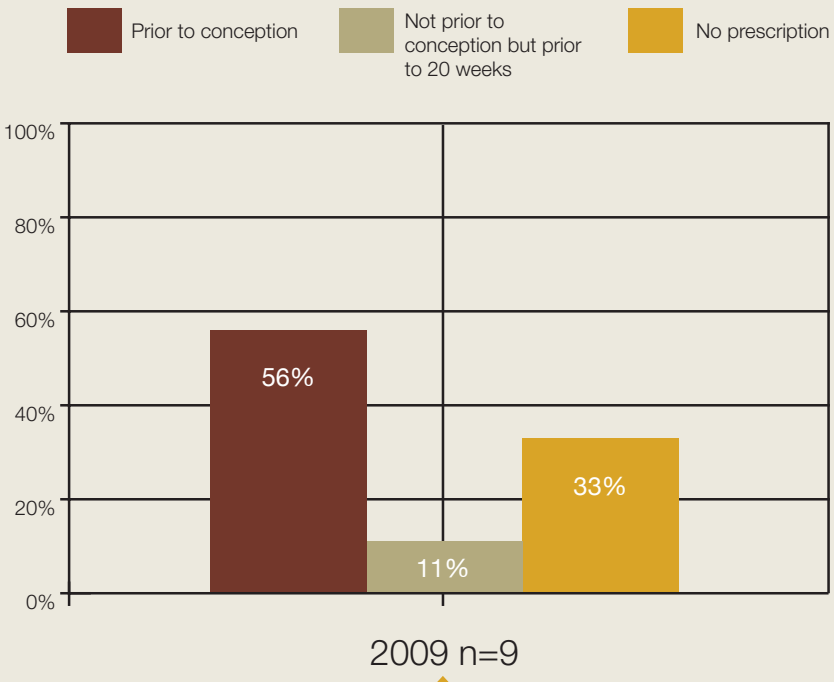
There may be many influences within a community that are relevant to the interpretation of audit reports. These might include cross-cultural issues (particularly related to gender), current health promotion activities, the presence of individuals (positive or negative) at the clinic, the impact of using constructive or destructive language and current capacity.

For example, the only staff member trained to use the Point-of-Care blood testing machine may have been on long-service leave for an extended period, and so regular glycated haemoglobin (HbA1c) testing was not done. Thus, there may be quite specific explanations for some of the audit findings.

Example 1: Why local interpretation is important

The graph shown in Figure 7.6 shows the percentage of pregnant women who received a prescription that contained folate supplements either before or during their pregnancy.

Figure 7.6: Women with a prescription of folate present (grouped per cent)



The **denominator** is this instance is the number of women who were pregnant, shown as n=9 at the bottom of the graph. It is important to be aware of denominators when considering percentages and especially when comparing cycles.

It appears that 56% of women presented to the clinic before conception for folate supplements. This would be a 'good news' story, as it would appear that there has been an effort in this community to encourage women of child-bearing age to take folate before conception.

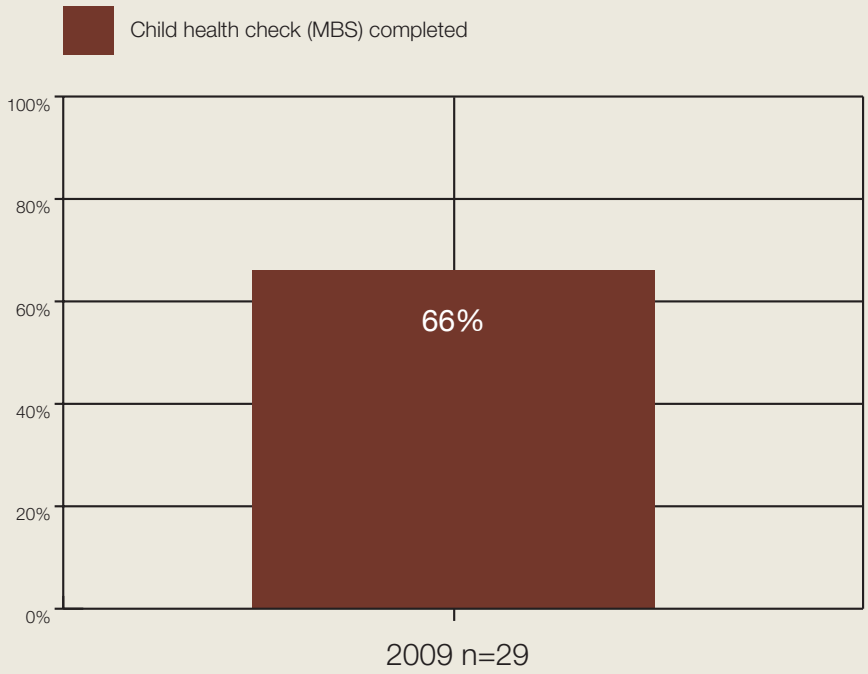
However, on discussing this graph with local clinical staff, it was apparent that the folate was included in iron medication that women were already taking because they were anaemic, rather than folate being specifically prescribed.

Example 2: Why local interpretation is important

This example highlights the need to be aware of influences within the community and background information that only local interpretation can provide.

Figure 7.7 below shows the percentage of child health checks completed at the local health centre. It would appear that the health centre is successfully undertaking these checks, with a coverage rate of 66% of all children who attend the centre having a current and complete child health check.

Figure 7.7: Child health check present



Through the report interpretation process with local staff it became apparent that these checks were done by a Northern Territory Emergency Response (Northern Territory 'Intervention') team coming to the community and completing child health checks, then leaving. None of the child health checks had been done by regular health centre staff. The health centre was subsequently examining options to include child health checks in their routine care.

Step-by-Step: Preparing and facilitating a participatory interpretation session

Preparing for a participatory interpretation session

Whichever approach or timing of the participatory interpretation step is chosen, the following tips will assist facilitators of the session to be well prepared.

In the process of participatory interpretation, it is an essential part of a facilitator's role to:

- understand the factors that affect local service delivery
- be able to give a clear and accurate picture of the story contained within the reports
- be able to assist the local health centre staff and managers to see how they might use the information effectively.

Methods to achieve this level of informed and capable facilitation might include:

- ❑ Working through the report with a local clinician or small group such as a clinician, a nursing leader, a leader of the health centre's Indigenous workforce, and/or a data advisor. In this process, the facilitator develops their own understanding of the data, and can help the group to think about those elements of the report that are most important for local health centre to consider.

- ❑ Asking a local health centre clinician to present a summary of the report's most important information when the broader participatory interpretation session is held.

- ❑ Organising a co-facilitator who can help with discussion of the clinical data and/or local context during the session.

One facilitator reported: 'I have found it useful to prepare with a small group of health centre staff a PowerPoint presentation by cutting and pasting from the health centre's audit report. This provides a focus and a framework for the broader staff group to discuss the results as a team—key messages rather than the weighty full audit report. I will sit with key staff and prepare the presentation with them; they pull out features they would like presented and then they present this to a broader staff group that also contributes to interpreting the whole story in terms of the perspectives they bring to the centre. This encourages local ownership.'

As with preparing for a systems assessment session:

- ❑ Discuss the possible approaches to participatory interpretation (Scenarios 1-3 outlined above, or other approaches preferred locally) with the key contact or manager at the local health centre.
- ❑ Make sure there is agreement about when and how the session will be conducted. Try to make sure the meeting time will allow as many staff as possible to attend.
- ❑ Find out who will be attending, and what their roles at the health centre are.
- ❑ Check the suitability of the room, availability of any resources needed (such as a data projector, butcher's paper, or a whiteboard) and make arrangements for refreshments to be available.
- ❑ Check how much time has been allocated for the session and plan the session accordingly.

Facilitating a participatory interpretation session

The key to participatory interpretation is to ensure that those involved understand the often complex data and the story they tell about the local health centre. Presenting and discussing these data with a diverse group can be challenging. Those facilitating a participatory interpretation session may find it useful to:

- ❑ Use the preparations described above to make sure that the data will be presented clearly and in context.
- ❑ Set up the session by explaining that there is a lot of information to cover that might not be easy to understand. Encourage participants to ask questions about anything that is unclear to them. Reiterate this during the session.
- ❑ Make it clear that the information presented is a reflection of the work of the entire staff and managers and the organisational systems of the health centre. Avoid patterns of blaming individuals or making excuses. Use the session as an opportunity to talk up teamwork and shared expertise in quality improvement.

Tip from a facilitator: 'While interpreting report data with staff, I get the staff to think of improvements for each audit domain, and we write these on the whiteboard. We usually end up with a big long list of improvements we would like to make. Once we have finished the report interpretation session, we then look to the whiteboard list of goals and choose three or four things for each audit domain to concentrate on for the next twelve months. This helps build shared agreement on priorities.'

- ❑ If a local health centre clinician or manager presents the data to the group, watch to see if anyone appears to be having difficulty understanding terms or information. Ask questions of the presenter to help make things clearer. For example:
  - "Can you explain what you mean when you talk about the 'sample size'?"
  - "Could you say a bit more about why it's important to do that test?"
  - "You said the health centre has a low level of follow up of abnormal results. Can you give an example of how that affects the patient's care?"

This process of clarification is particularly important if there are cross-cultural or language issues. Note: it may be advisable to alert the presenter about this approach prior to the session; they are then less likely to feel threatened or undermined by the questioning.

- ❑ Write any areas for improvement or ideas for goals and strategies as they come up on a whiteboard or butcher's paper. This makes it easier to think about and prioritise goals later in the process.

- ❑ Use a range of facilitation techniques as appropriate to engage all those taking part in the session. (See Section 10, 'Facilitation', for more information about facilitation techniques.)

Changes in staff, practice and resources may have occurred in the period since an audit was completed. When interpreting the report, it can be useful to remind participants that these changes have occurred, particularly if they resulted from changes implemented as part of the CQI process.

Section 8:
Goal Setting and Action Planning

The purpose of this section is to support the facilitation of goal setting and action planning.

What's in this section

Section 8: Goal Setting and Action Planning

What does goal setting and action planning mean?

- Goal setting is a process of identifying and prioritising areas of service delivery or care that have been identified as requiring improvement.
- Action planning is an organisational planning process to identify the resources required, to allocate responsibility and to set milestones and timelines for completion of the activities required to achieve each goal.

Why set goals and plan actions?

- Setting achievable goals and actions helps to motivate health centre staff and managers and provides a sense of direction and achievement.
- Clearly defined goals and actions are essential for planning for improvement. Without a clearly defined and shared understanding and commitment to the goals and actions, implementation will lack direction and momentum.
- Having clearly defined goals is essential for evaluating the success of an action or project.

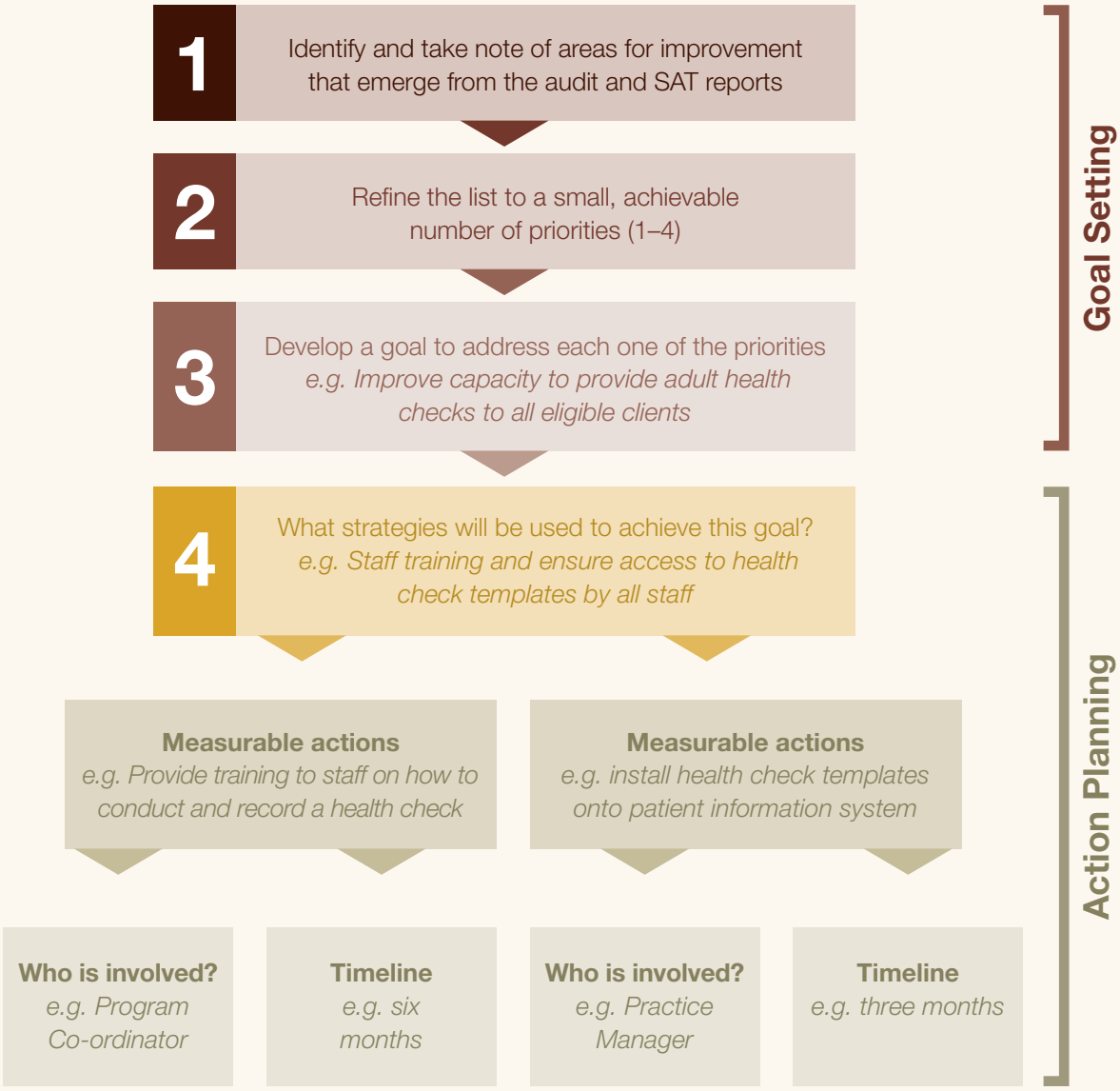
Who should be involved in goal setting and action planning?

Involvement of as many health centre staff and managers as possible in the goal setting and action planning process is important in achieving a shared understanding and ownership of the action plan. This is particularly the case for those who will have a role in, or who will be affected by, implementation of the action plan.

It is important that time is allocated to undertake the identification of goals and subsequent development of an action plan.

To ensure all staff can participate in the goal setting and action planning, health centre managers might plan ahead to close the centre to 'non-urgent' cases to ensure the whole team can take part.

Figure 8.1: Flow chart of goal setting and action planning process



Step-by-step: Facilitating goal setting and action planning

The flow chart in Figure 8.1 and steps outlined below provide a guide to the process of goal setting and action planning. This is a general guide only and local health centres may have their own established processes.

The steps below outline how a facilitator might develop a goal setting and action planning session at a local health centre. For information about preparations leading up to a goal-setting session, see Section 7, 'Participatory interpretation' and Section 10, 'Facilitation'.

Step 1: Identify areas for improvement

- List all of the important areas for improvement of care and/or systems that emerged during the CQI process: from audit reports, systems assessment and the interpretation process.

Writing areas for improvement on a whiteboard or butcher's paper during each of the stages of the cycle will help to capture ideas that might otherwise be forgotten by the time of the goal setting stage. Make sure the areas for improvement get documented so they don't get lost.

Step 2: Prioritise areas for improvement

- Some consistent themes may begin to emerge from the list of possible areas for improvement
- Facilitate the group to select a small number of the most important areas for improvement and to prioritise them. Factors that might be considered in making this decision could include:
    - The health centre's overall current priorities, for example, as set out in their business plan.
    - The potential impact of an improvement on client care (and health outcomes), and on the effectiveness of the health centre's systems.
    - The feasibility of making an improvement: is it easy to accomplish, expensive or require expertise the health centre does not have?
- These priority areas for improvement will become the focus of the action plan.

Step 3: Develop a goal for each one of the top priority areas

- Goals and the progress towards them should be measurable. For example, a goal may be to increase the number of child health checks carried out at the health centre by 10 per cent within 12 months.

- It can be useful to begin with some goals that can be achieved relatively quickly and easily so staff feel a sense of achievement and confidence to go on to more challenging goals.

Step 4: Develop strategies to achieve each goal

- The action plan will include one or more strategies to achieve each goal.

- For each strategy, identify:

    - what will happen/actions
    - who will be responsible
    - timeline
    - resources required

It is important to make sure that the goals and action plans developed can be incorporated into any existing action or business plans already in place. Examples of other plans include the Office of Aboriginal and Torres Strait Islander Health's (OATSIH) Service Development and Reporting Framework (SDRF), Healthy for Life Program action plans, and business plans of the various State or Territory departments of health.

When setting goals and planning actions, health centre staff and managers should be encouraged to think about linkages with the local State or Territory jurisdiction. For example, a goal might be set to revamp the local medical record system. Without consultation at a broader level, the local health centre might undertake a significant amount of work towards this goal, only to discover that a state-wide imperative may prevent this from happening. Alternatively, there may be resources or valuable work already being done by others that the local health centre can use to help achieve its own goals.

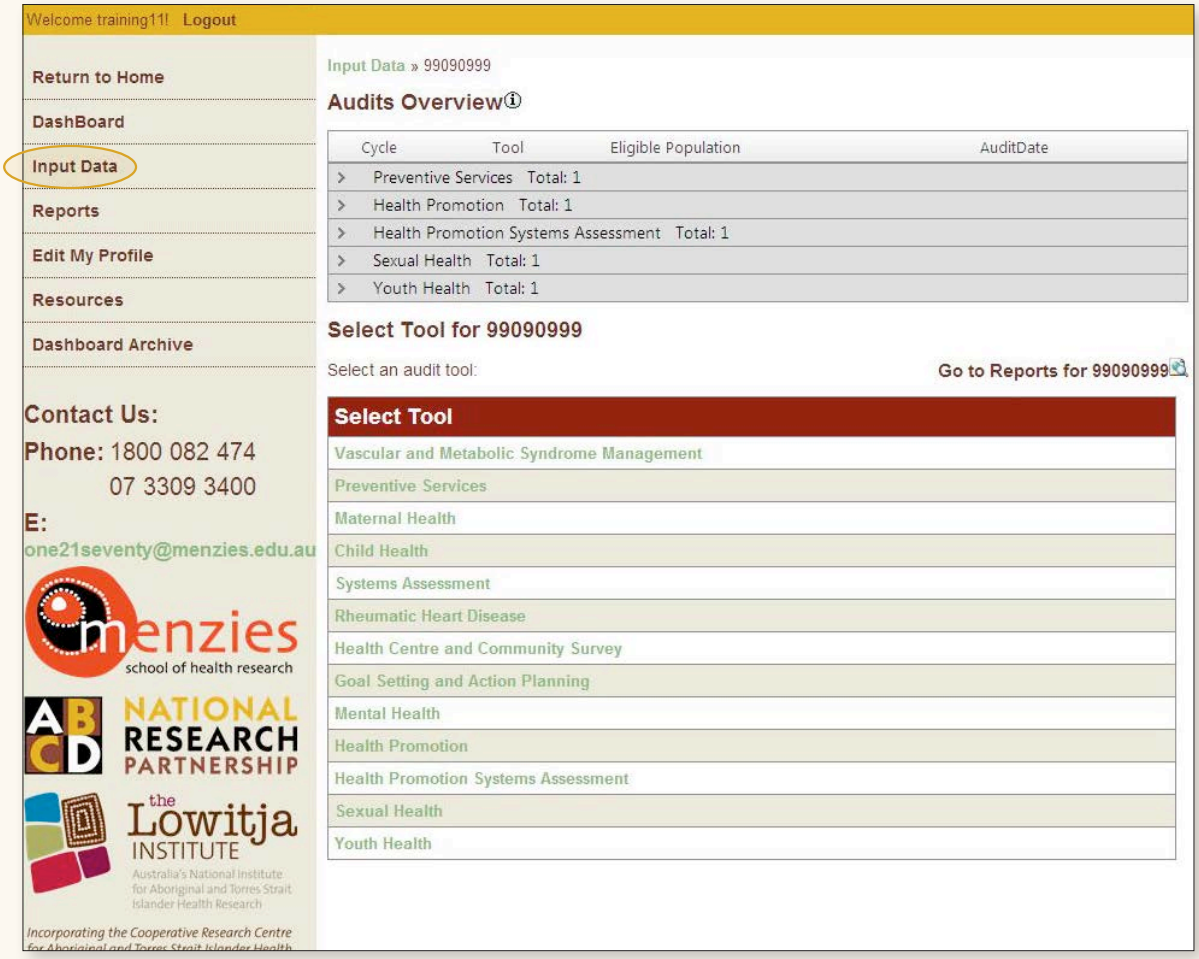
Appendix 8A provides an example of goal setting and action planning tools and approaches. These tools and approaches are not intended to be prescriptive. Health centres should be encouraged to find an approach that meets their local needs as well as any reporting requirements they may have.

Step 5: Documenting the action plan

The information about goal setting and action planning should be documented and made available to all staff. This documentation should include:

- priority areas for improvement (goals)
- actions to achieve these goals
- who has responsibility for specific actions
- milestones, timeframes and performance indicators (if set).

This information can be entered into the One21seventy web-based information system (www.one21seventy.org.au) at the 'Input Data' section, and will be included when the next relevant clinical audit report is generated.



Step 6: Implementing the action plan

Implementation of the action plan will depend on the nature of the goals and strategies. It is very easy for health centre staff and managers to become distracted from the process of implementation. It can be useful to facilitate discussion around techniques to ensure that goals and action plans get implemented.

Some steps that health centres might consider adopting to encourage implementation of action plans include:

- Regular review of progress to keep up momentum and keep people focused on the steps necessary to achieve goals. For example, regular meetings could be set to review progress, or the action plan could be incorporated into the agenda of regular staff meetings.
- Regular generation of reports that measure progress towards a goal. For example, if a goal was to increase Hba1c testing for clients diagnosed with diabetes, managers might request a fortnightly or monthly report on completed or up-to-date Hba1c testing.
- Identify a designated person to monitor progress and remind people of their tasks.
- If resources are required to introduce an improvement, consider whether available resources might be redeployed.
- Health centre staff and managers can use relationships and partnerships to help leverage influence and resources to bring about changes in the operating environment outside the health centre.

A health centre might establish a standing item on progress on the action plan in the staff meeting agenda. At each staff meeting, staff can look at how they are progressing with the activities to achieve each goal. If the activities are broken down into small steps that are achievable in short time frames, staff can get a sense of progress and achievement towards the goal. This helps to promote motivation and enthusiasm.

If the support of regional, State or Territory health authority managers (outside the local health centre) is required to help achieve or remove barriers to improvement, the health centre might consider inviting a key health authority manager to sit in on the goal setting and action planning session. This may help to get their understanding and assistance.

Appendix 8A: Example of goal setting and action planning

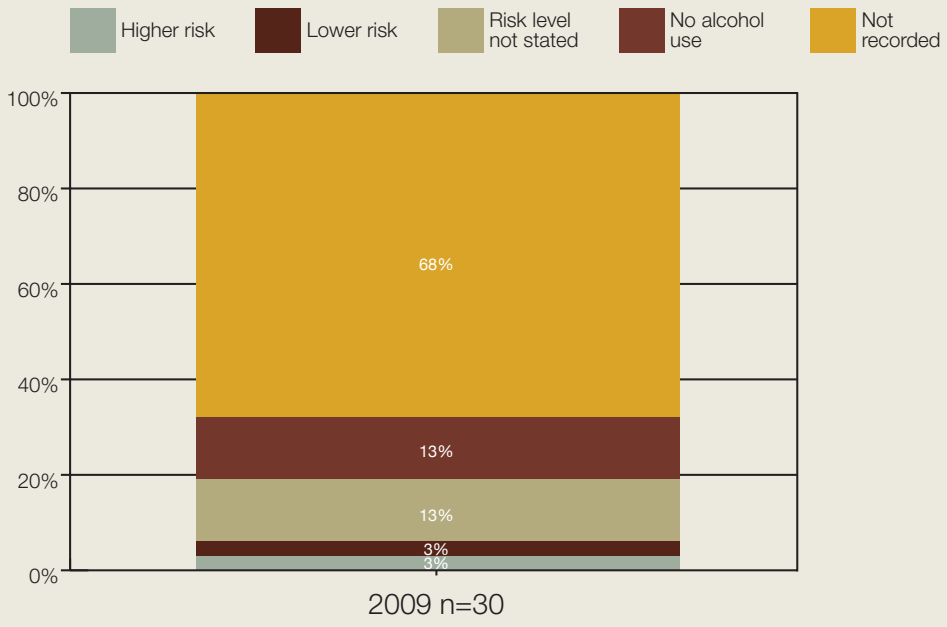
Setting goals based on audit data

This example shows a straightforward process of setting goals around one area from the audit data, in this case alcohol.

Step 1: Identify an area for improvement

The health centre reviewed audit data from the diabetes audit. Figure 8.3 shows the recording of alcohol use within the last twelve months. The health centre staff were alarmed that the level of alcohol consumption was either not recorded (68%) or the risk level was not stated (13%) for 81% of clients.

Figure 8.3: Alcohol use within the last 12 months (percentage of clients)



Step 2: Develop a goal

Health centre staff decided they could set a relatively straightforward goal that would help them know if they were providing quality care in relation to reducing the risk of alcohol related harm for diabetes patients. They decided to improve recording of risk level related to alcohol consumption.

Step 3: Develop an action to achieve the goal

The actions planned were to:

1. investigate barriers to staff entering alcohol use risk level information into the patient information system
2. address identified barriers
3. provide training to staff on assessing, and entering information
4. client record checked on patient arrival. File flagged if risk level not recorded.

Health centre staff recorded the goal as shown in Table 8.1.

Table 8.1: Goal setting and action planning template (see Appendix 8B for this and other templates)

Goals	Strategies	Who's involved	Timeline
Within the next 6 months, 50% of clients with diabetes will have their alcohol use risk level recorded in their medical record.	Investigate barriers to staff entering alcohol use risk level assessment	Senior nurse	2 months
	Training in risk assessment and entering information will be provided to all staff.	Training coordinator	4 months
	Reception staff will be trained to check client's record on arrival. Flag file if risk level not recorded	Clinic coordinator	6 months

Appendix 8B: Goal setting and action planning template

This template can be used for goal setting and action planning and is available for download from the resources section of our website. If you would prefer to use your own template the important elements include documenting:

- the goal
- strategies and actions to achieve the goal
- who will do what
- timeline and/or milestones.

Identifying priorities for improvement

From the clinical audits and systems assessment data, decide what aspects of your health centre systems require the most development in order to improve delivery of services. Tables 1 and 2 are templates your organisation may wish to use to document goals and actions for improvement.

Table 1: Priorities for improvement identified during participatory interpretation

Priorities	Who's involved	Timeline
1.		
2.		

Table 2: Goals and actions for improvement identified during action planning

Goals	Strategies	Who's involved	Timeline
1.			
2.			

Section 9:
The One21seventy Web-based Information System

The purpose of this section is to provide an introduction to the One21seventy web-based information system:
www.one21seventy.org.au

What's in this section

Section 9: The One21seventy Web-based Information System

About the One21seventy web-based information system

The One21seventy web-based information system is the main source of information, tools and resources related to the One21seventy CQI cycle.

The One21seventy web-based information system is used throughout the CQI cycle to:

- provide access to current versions of the clinical audit tools, Health Centre and Community Survey (HCCS) and the Systems Assessment Tool (SAT)
- enter and analyse the HCCS, clinical audit and systems assessment data
- download HCCS and audit reports, including systems assessment data and goals
- view reports on screen and compare results at the cluster, State/Territory or national level
- record strategies and goals
- provide information about One21seventy.

The web address is **www.one21seventy.org.au**

The One21seventy Helpdesk can be contacted on:

Phone: 1800 082 474
Email: one21seventy@menzies.edu.au
or via the 'Feedback' section of the site.

Accessing the One21seventy web-based information system

Registration

To register as a user of the One21seventy web-based information system, click on the 'Register' button at the top right of the home page, www.one21seventy.org.au.

Registration requires a new user to:

- create a username, password, and security question
- provide contact details and an email address.

This registration process will create a 'Guest' user account that gives access to the general areas of the site, such as the 'Resources' section.

User types

The One21seventy web-based information system allows for a number of different types of users, depending on the level of access required.

A 'cluster' of health centres is defined through agreement with the participating health centres and the regional authority funding their participation. These clusters may reflect administrative arrangements (such as districts or regions) or other arrangements related to CQI support.

Data sharing and security

Sharing of data within the One21seventy web-based information system

The extent to which a local health centre's data will be shared depends on the 'Service Agreement' between One21seventy and the health service.

Sharing of data gives a local health centre access to aggregate comparison data from other health centres for clinical audit, systems assessment and HCCS reports.

Individual health centres are not identified within reports on shared data. (Shared data does not compare individual health centres.)

Data can be shared at the cluster or national level, or not shared at all:

- Sharing of data at the cluster level allows for comparison of local health centre data with the aggregate data of other health centres in the same cluster, but this is only possible if there is agreement that all health centres within the cluster will share their data at cluster level.

- Sharing of data at the national level allows for comparison of local health centre data with the aggregate data from all other health centres that have agreed to share their data nationally. If a local health centre is not sharing its data nationally, it will not see any national comparison data in its reports.

Data ownership and security

Data ownership and management on the One21seventy web-based information system is in line with the National Aboriginal and Torres Strait Islander Health Data Principles. These principles set out a culturally respectful foundation for the collection, storage and use of health and health-related information and are endorsed by Australian Health Ministers' Advisory Council.

In practice, this means:

- The maintenance of confidentiality of information derived from client clinical records is the responsibility of all personnel involved in clinical audit processes and reporting. One21seventy staff are bound by a confidentiality agreement.

- Electronic data is stored by One21seventy in password-protected systems and no client names are entered onto the One21seventy web-based information system.

- Any sharing of health centre data with other individuals or agencies can only occur if and as specified in the service agreement data will be shared depends on the 'Service Agreement'.

- Identification codes linked to names are maintained by the health centre or health centre staff and should be stored in a separate locked facility. Protection of the confidentiality of these codes is the responsibility of the health centre, in line with privacy and confidentiality of their client health records more generally.

- Names of individual health centres are not included in reports for general circulation.

- Data entered into the web-based information system can not be used for research purposes without specific and separate agreement of the local health centre management and their governing bodies. Engagement of local health centres and regional authorities with One21seventy does not indicate any agreement, obligation or expectation to engage in research, or to make health centre data available for research purposes.

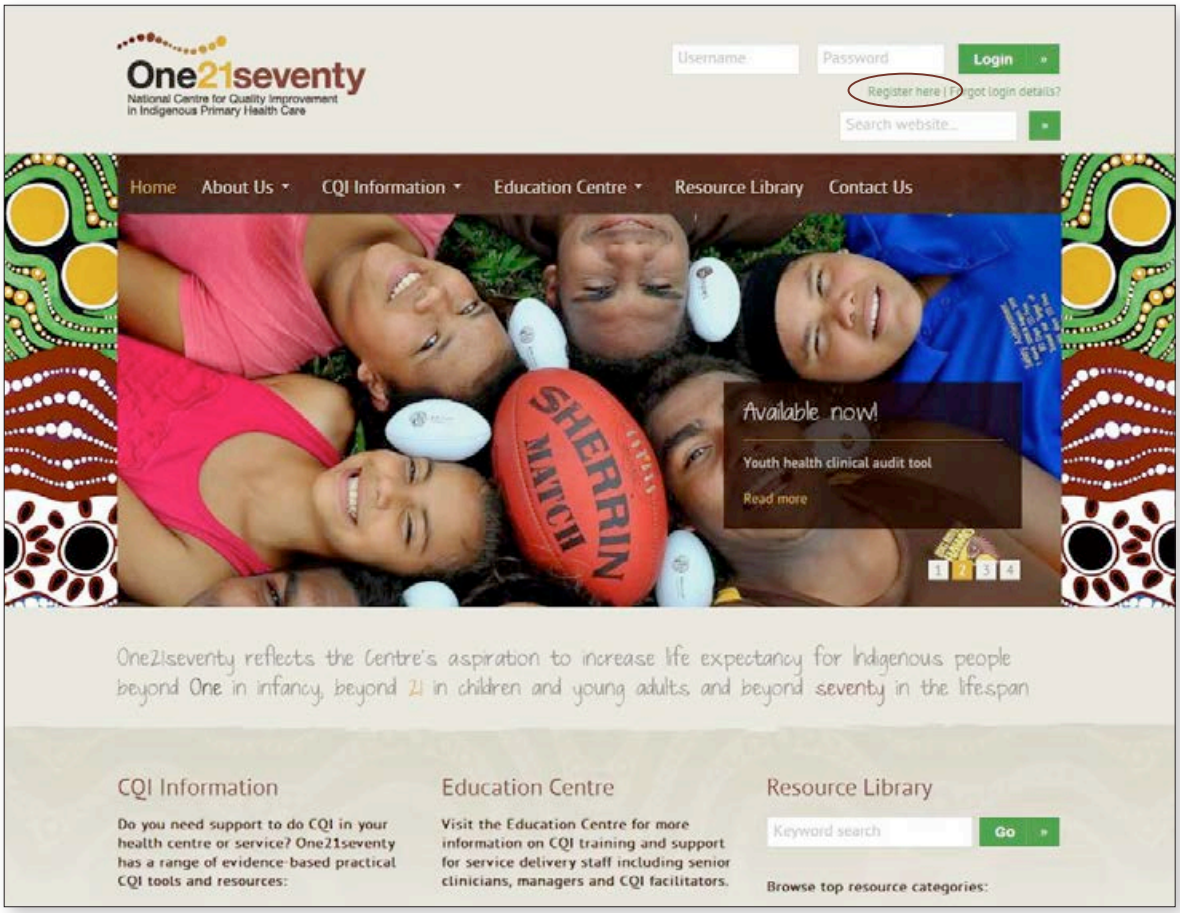
- If a health centre/health authority agrees to participate in research, this needs to be negotiated through a separate process and documented in a separate signed 'Research Agreement'.

Navigating the One21seventy web-based information system

Home page

This is the page that the web address www.one21seventy.org.au opens. The home page can be accessed without registering and is open to anyone to read. This page provides links to information about One21seventy and its tools and services, as well as background information on CQI and Indigenous health.

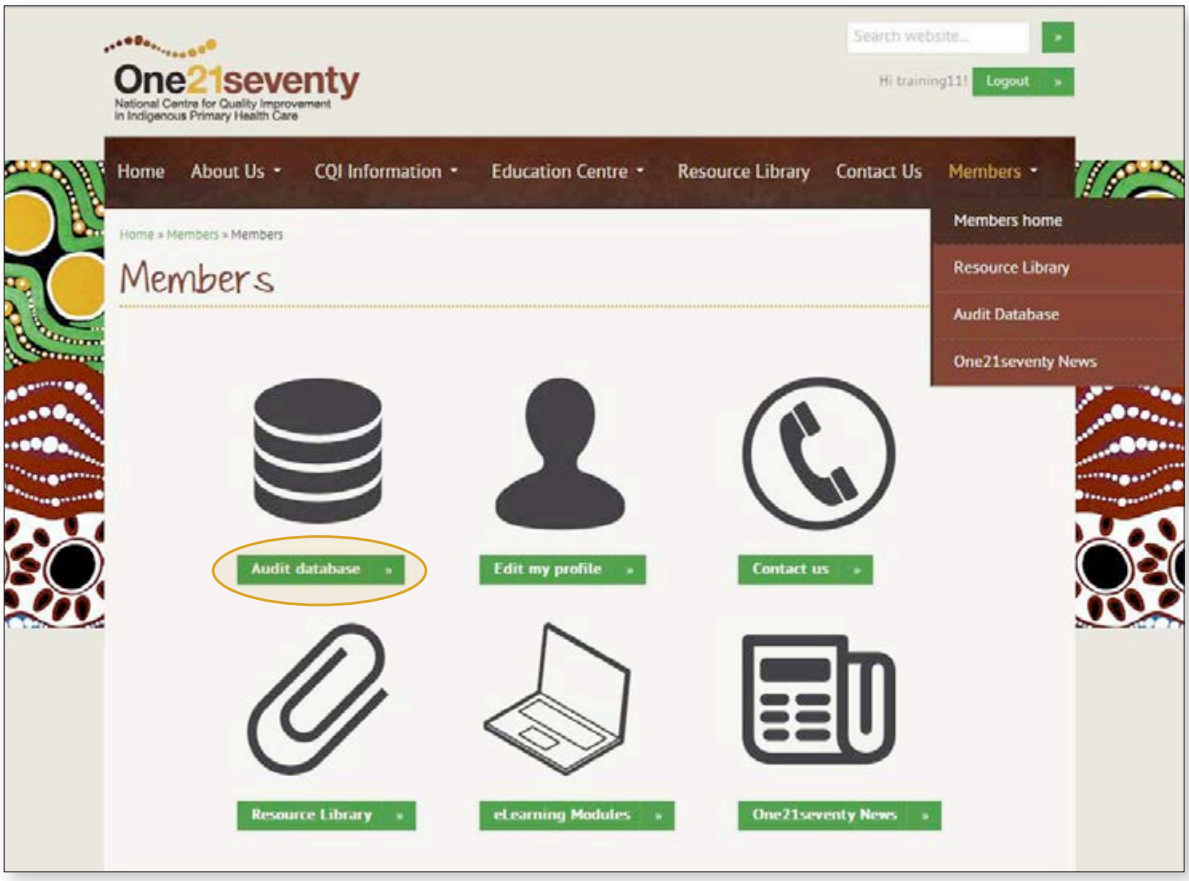
The 'Register' button in the upper right of the page is where new users apply for access to the site.



Members

The ‘Members’ page opens when a user logs in. The ‘Members’ displays links to important sections of the website.

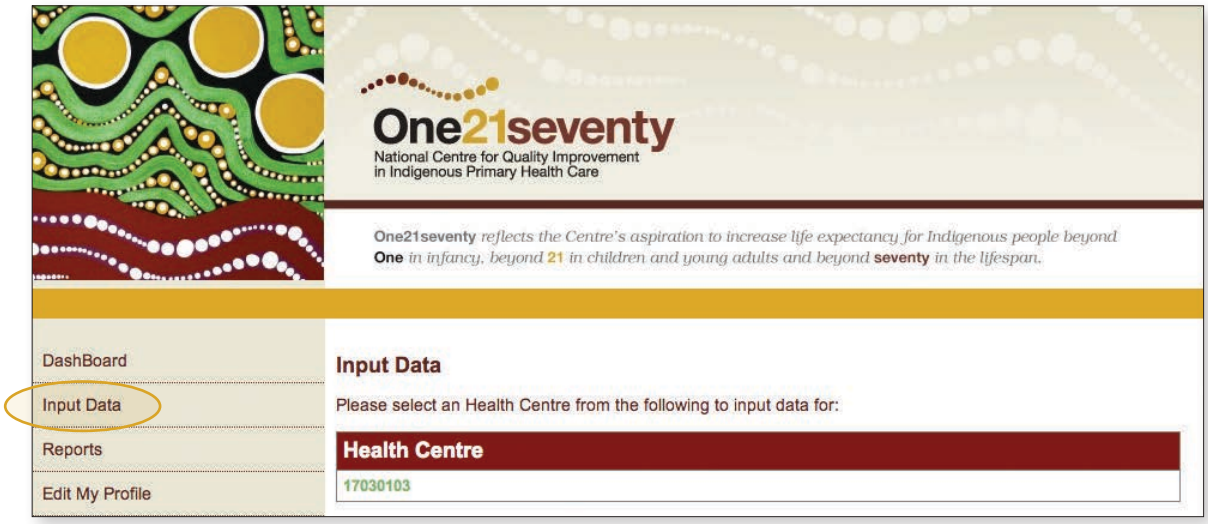
Please click on ‘Audit database’ to navigate to the database and reporting system. Depending on the user’s level of access, the ‘Audit database’ will contain some or all of the sections that follow.



Input Data

This is where data are entered for a local health centre's HCCS, clinical audits, system assessment and goal setting.

Data input screens are designed to reflect the paper audit and survey tools. Some data input functions have inbuilt validation processes that help ensure the consistency and accuracy of the data as they are entered.



Because audit tools and protocols are updated regularly, it is important that the latest versions of the audit tools are used for all audits. The data entry screens and analysis functions of the website are designed to match the latest versions of the audit tools. Previous versions of audit tools are not suitable for use with the data entry or data analysis functions of the One21seventy web-based information system.

Reports

This is where local health centre audit and HCCS reports can be generated and downloaded.

Data can also be viewed on screen for individual indicators, and can be compared across cluster, State/Territory and nationally (if the health centre is sharing data any or all of those levels).

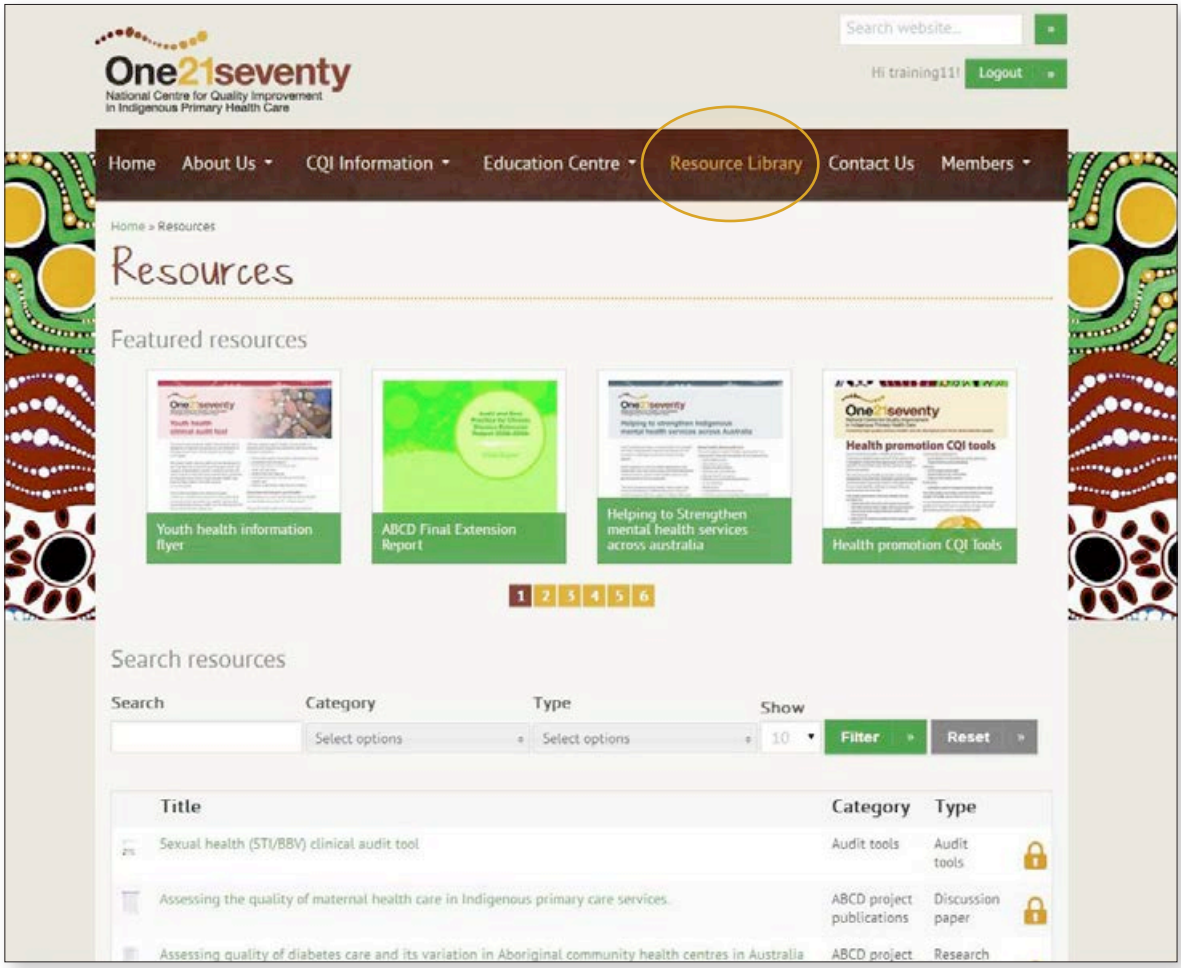
Aggregate Reports

Aggregate reports are only available to those authorised users associated with a health centre that has agreed to share data nationally. Reports can be downloaded for clinical audits (including systems assessment) and the HCCS.

If a local health centre is not sharing data, there will be no access to the 'Aggregate Reports' section.

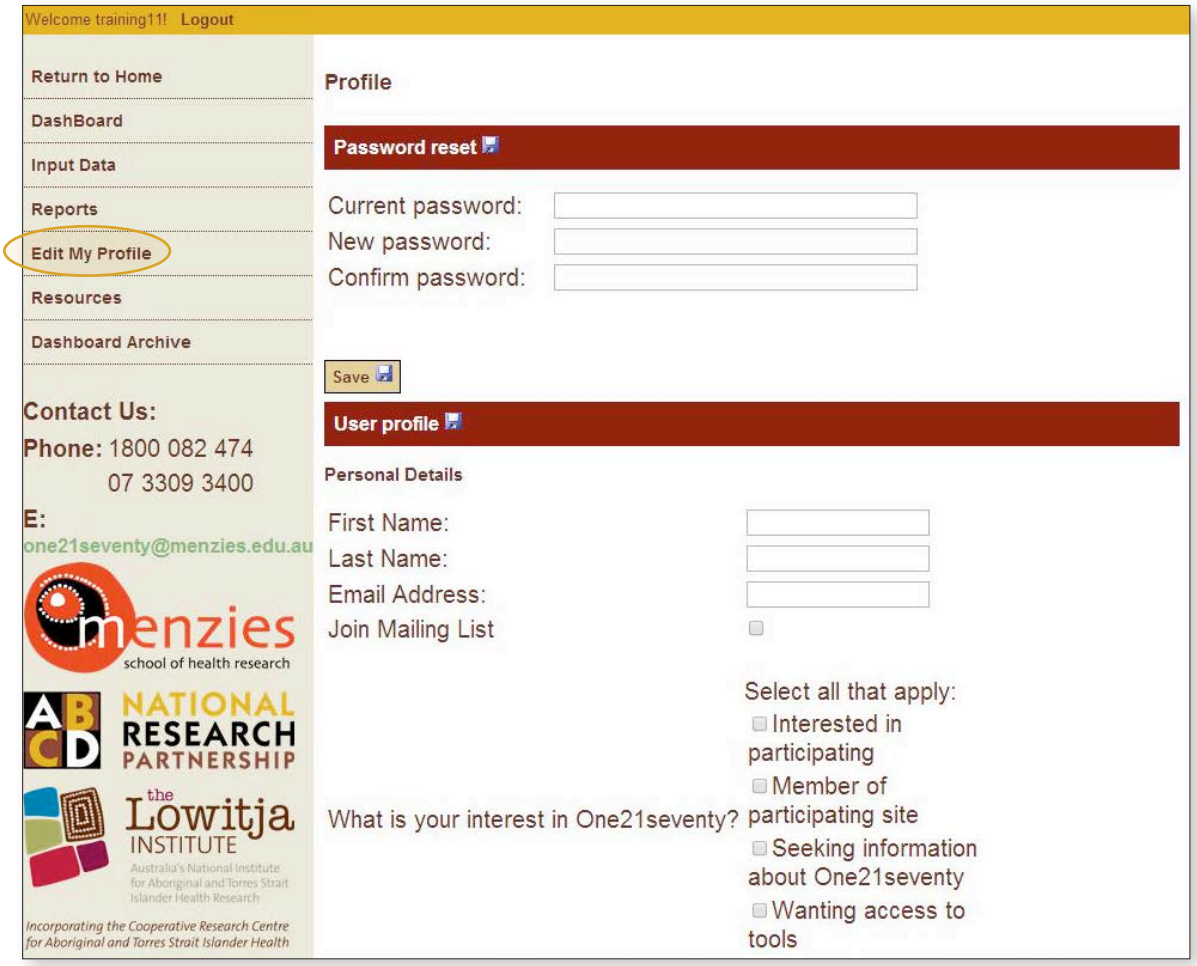
Resources

This is where to find current versions of the clinical audit tools and protocols, the Systems Assessment Tool (SAT), the HCCS and other relevant documents. The 'Resources' area also provides links to relevant best practice guidelines and journal papers.



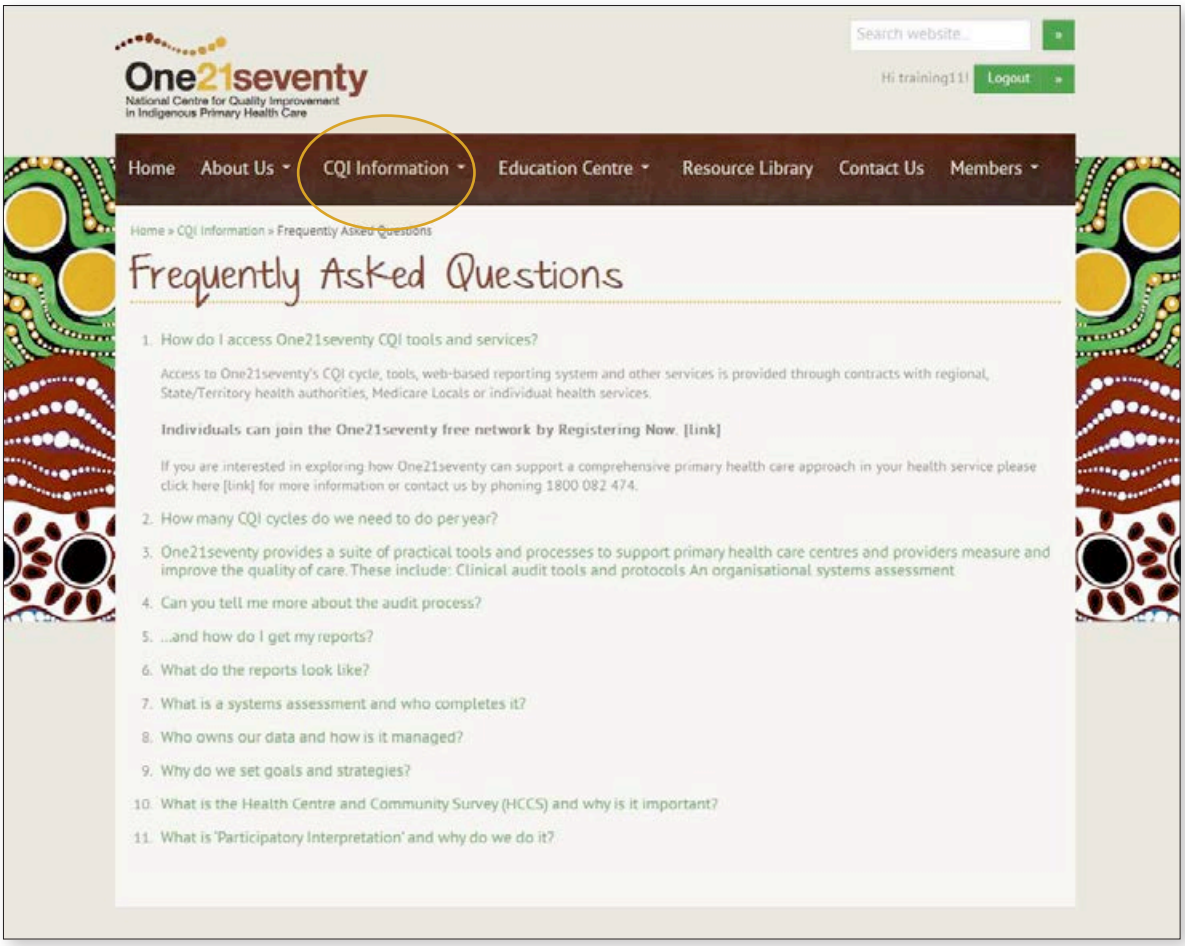
Edit My Profile

This is where contact details and passwords can be changed.



FAQs

Click on CQI information to find answers to Frequently Asked Questions (FAQs) about One21seventy CQI tools and processes.



Help desk or contact us

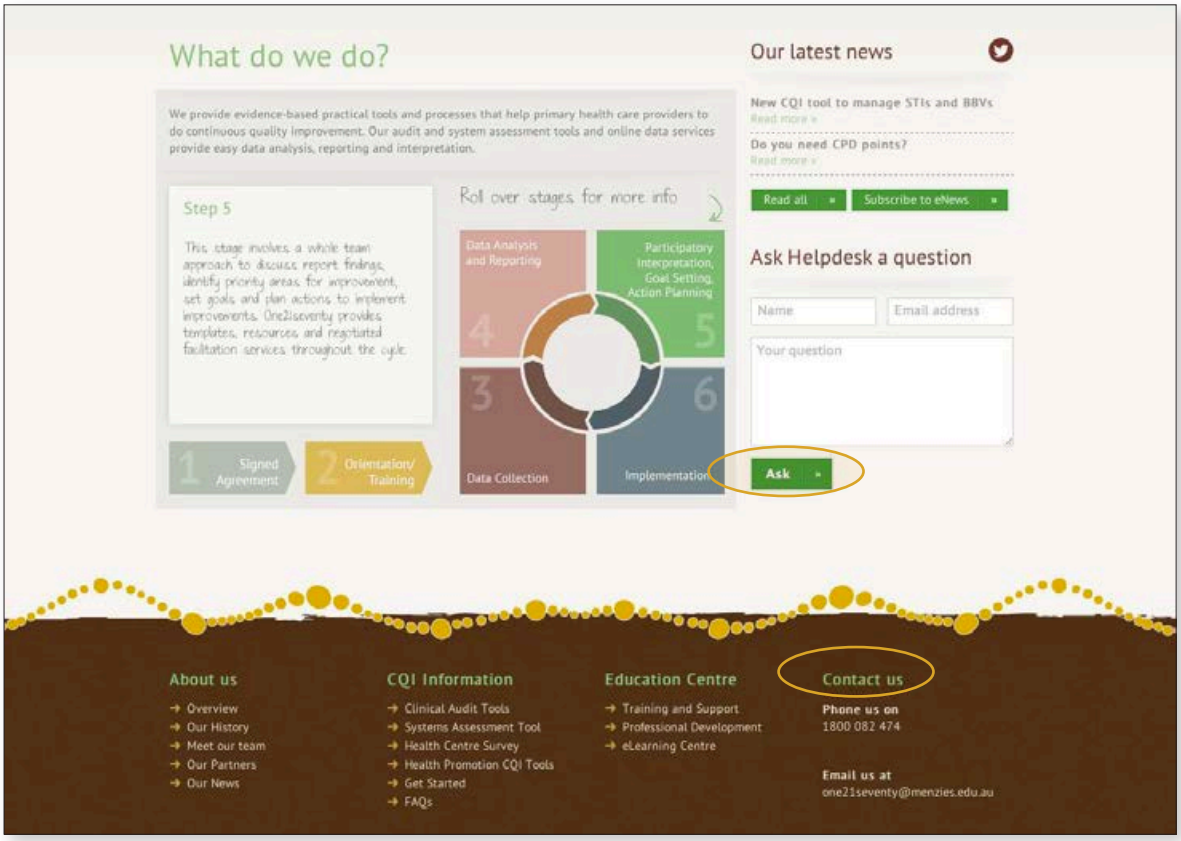
This is where to ask a question or report an error, or provide feedback on any aspect of One21seventy.

The 'help desk' form sends an email to the One21seventy Helpdesk.

All submitted information is identified with the individual's username and is treated as confidential.

Feedback and issues raised by users about the clinical audit tools and protocols should be reported via this 'help desk' area. These issues are recorded in an 'Issues Log' and provided to the working groups that review audit tools and protocols on a regular basis, and the audit tools are refined to address these issues as required.

To contact One21seventy please email us at one21seventy@menzies.edu.au or call us on 1800 082 474.



Section 10:
Group Facilitation

The purpose of this section is to provide a basic introduction to facilitation methods needed to support the One21seventy CQI cycle.

Facilitation skills are required thought the cycle, particularly during the systems assessment, participatory interpretation and goal setting/action planning stages of the cycle.

What's in this section

Why is a facilitator important in the One21seventy CQI cycle?

What characterises a skilled facilitator?

Facilitation and adult learners

- Adult learning principles
- The learning pyramid
- Learning and personality preferences

What characterises adult learners?

What worries adult learners?

Step-by-step: Tips for preparing and facilitating a group session

Section 10: Group Facilitation

Why is a facilitator important in the One21seventy CQI cycle?

Health centres will benefit most from the One21seventy CQI cycle when as many staff as possible are involved in the various stages of the cycle. Involving staff helps build a shared understanding and a sense of direction from the whole health centre team. Bringing the health centre staff and managers together to develop this shared understanding requires skilled facilitation.

For example, a facilitator of a systems assessment session must keep the group on task and support the group to reach consensus on the scoring of the systems assessment items. A skilled facilitator will encourage all members of the group to contribute - the focus is not only about deciding on a score but arriving at the score collaboratively and by hearing and considering different points of view.

What characterises a good facilitator?

A skilled facilitator is someone who is:

- skilled in enabling participation by individuals in group processes
- capable of maintaining objectivity
- skilled in observing and managing the underlying dynamics of the group
- able to provide the structure needed to ensure a facilitated session achieves its aims.

A skilled facilitator helps a group achieve what it wants or needs to do. Some of the key roles of the facilitator are to:

- encourage active participation from all members, including quieter members
- keep the group on target and moving towards the intended outcomes
- clarify communication by and between individuals
- enable decision making (for example, to set priorities, find solutions, set goals and plan actions)
- summarise key points in the discussion and progress towards outcomes
- redirect conversations that have moved off topic.

Facilitation and adult learners

Adult learning principles

A skilled facilitator understands and applies the principles of adult learning to plan and conduct group sessions.

Adults learn in different ways to children. In the 1990s, adult educator Malcolm Knowles identified six principles of adult learning[1]:

- adults are internally motivated and self-directed
- adults bring life experiences and knowledge to learning experiences
- adults are goal oriented
- adults are relevancy oriented (they want to know why this is important for them to learn)
- adults are practical
- adult learners like to be respected.

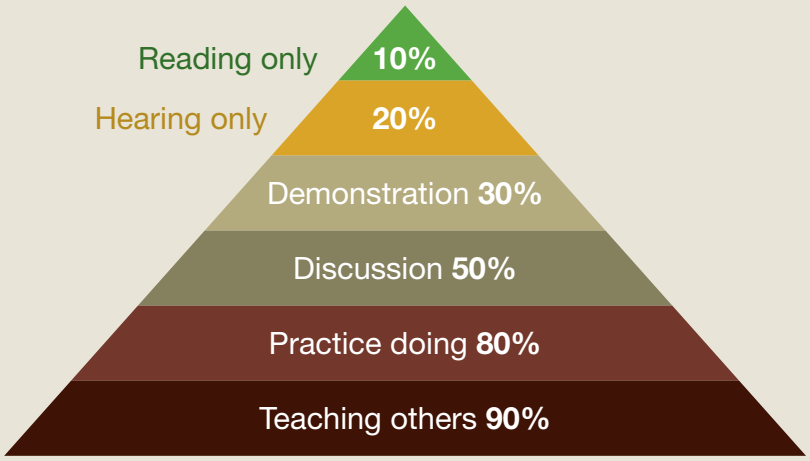
The learning pyramid

Current evidence about how adults learn effectively indicates that the success rates for the retention of new information are as shown in the 'learning pyramid' below.

The pyramid shows that the higher the level of involvement and participation, the greater the learning.

For example, if local health centre staff simply read the clinical audit report, they might retain about 10–20% of the information. A facilitated discussion of the audit results with local health centre staff during a report feedback session will increase learning retention to about 50%.

The clear message is: Engage as many staff as possible in the One21seventy CQI cycle in order to increase the health centre's capacity, learning and chances of successful implementation.



Source: *NTL Institute for Applied Behavioral Science, 300 N. Lee Street, Suite 300, Alexandria, VA 22314.*

[1] Knowles M 1998, *The Adult Learner*, 5th ed, Gulf Publications, Houston.

Learning and personality preferences

Each individual uses a range of ways of learning but tends to prefer one method above others. These are called learning preferences. Some people prefer to:

- take in information by reading it
- take in information visually
- hear and discuss it
- do it and get the feel of it.

Skilled facilitation needs to take into account the diversity of learning preferences that may exist in a group, and present information in a range of ways to best engage with all participants.

Similar to learning preferences, individuals have preferred personality styles: introverted, extroverted; logical, emotional; task-oriented, process oriented. Personality styles can influence learning styles and the way individuals will behave and respond in group sessions. Cultural background and language will also influence learning and personality styles.

Those building their facilitation skills may wish to understand more about how learning and personality preferences can inform and be used by a skilled facilitator. There are many theoretical and practical approaches to working with these preferences. A useful summary document is the National Centre for Vocational Education Research (NCVER) publication 'Getting to grips with learning styles' by Peter Smith and Jennifer Dalton (2005), available at www.ncver.edu.au.

What characterises adult learners?

In general, adults tend to:

- lead full, complex and busy lives
- be mature learners and prefer to be treated as such
- have many preoccupations
- have a lot of experiences to draw on (and are readily able to relate new facts to past experience)
- have set habits and strongly established tastes
- have firmly established attitudes
- be proud of their independence
- have strong feelings about the learning situation
- have a specific purpose for learning, and are intrinsically motivated
- be more patient in the pursuit of learning objectives (and are therefore less tolerant of 'busy work')
- be tired or tire quickly.

What worries adult learners?

- Adults can be afraid of participation.
- Adults may fear embarrassment or loss of dignity.
- Adults can often resent authority.
- Adults may worry about keeping pace with the demands made on them.

Step-by-step: Tips for preparing and facilitating a group session

Step 1: Preparing to facilitate a session

A local health centre is a busy place, and anyone facilitating the various stages of the One21seventy CQI cycle should be well prepared.

Tips to prepare for a session:

- ❑ Review the step-by-step instructions throughout the training manual and/or relevant tools and protocols to ensure familiarity with what is required and whether any specific preparation is needed for a particular session.
- ❑ Clarify aims and roles within the session with any key participants (local health centre managers, clinical leadership, etc).
- ❑ Arrange and subsequently confirm the availability of health centre staff and the time and place for the session. Find out who will be attending, and what their roles are at the health centre.
- ❑ Identify what needs to be done during the session and the time and resources needed to complete these activities. Check how much time has been allocated for the session and plan accordingly.
- ❑ Check the suitability of the room, availability of any resources needed (such as a data projector, butcher's paper, or a whiteboard) and make arrangements for refreshments to be available.
- ❑ If possible, arrange for a senior manager or even a Board member to introduce the session. This will convey the importance that the health centre places on the process.

A few days before the session, confirm dates, times and names of who will be visiting with the health centre and if possible, include photos. Health centre staff can place the notifications and photos up on the staff bulletin board/s and take them to meetings to let everyone know who is coming.

Use morning or afternoon tea as an opportunity for participants to have a break and move around. Organise light but energy rich foods such as fruit, nuts and salads to be available during breaks. Avoid highly sugared foods like cakes, as these will make people sleepy once the sugar 'high' wears off.

Step 2: Clarifying the purpose of the session

When a session begins, a skilled facilitator will make it very clear what the purpose of the session is and what must be achieved by the end of the session.

Some tips for clarifying the purpose of the session:

- Be very explicit about the purpose and outcomes: do not assume that participants know anything about what is planned or required.
- It is useful to write the purpose of the session and what is to be achieved on a whiteboard or butcher's paper and have these displayed on a wall throughout the session for ready reference.
- Check back during the course of the session to remind participants of the purpose, and measure progress.

Step 3: Setting the ground rules

The facilitator's role is to ensure everyone in the group has an opportunity to participate and contribute. Setting ground rules allows participants to agree on appropriate ways of interacting with one another.

Some tips about setting the ground rules:

- Set the ground rules at the beginning of the session after introductions and 'housekeeping' (when breaks will occur, where the fire exit is, etc.). Make this a collaborative process: the group sets its own rules.
- Ground rules do not need to be extensive but may include:
  - treating each other with respect
  - one person speaking at a time
  - suspending judgement and respecting differences of opinion
  - avoiding the language of blaming
  - staying on the subject
  - allowing all participants to be heard.
- Make it clear how decisions will be made within the session. For example, what process will be used to help the group reach consensus about the score for a systems assessment item?
- Refer to the ground rules if the group gets put off-track by disruptive behaviours. A gentle reminder is often all that is needed.

Step 4: Creating a safe and open environment for discussion

Engaging all participants in the session requires the creation of a 'safe space' in which discussion can occur. This is one of the facilitator's most important roles: creating an environment in which all participants feel free to speak.

The facilitator can help create a safe environment by demonstrating that they are in control of the session and what occurs within it – and that they personally can be trusted to ensure the 'safety' of participants. Tips to help create this sense among participants include:

- Set ground rules as outlined above.
- Give participants a sense of why the work of the session is important to them, the local health centre and its clients, and the local community. Don't overemphasise the importance or mislead participants about what will happen as a result of the session: participants will be quick to spot insincerity or feel manipulated.
- Emphasise the importance of different points of view in finding successful solutions to problems or ideas for improvement.
- Encourage participation without pressuring people to talk. For example, "Let's go around the group and get one idea from each person. If you don't have an idea, just say 'pass'."
- If one or two speakers are dominating the session, reach out to the group and ask if anyone else has a view on this subject. Use body language by turning away from the dominating participants and encouraging responses from quieter members.
- Establish credibility as a facilitator by staying in control of the session, staying calm and modelling openness.
- Encourage the use of 'evidence' rather than opinion. Ask participants to give examples to support what they are saying. For example, ask "What have you observed or experienced that suggests this will/won't work?" "Does this match other people's observations?"
- Use humour, but use it carefully. Do not be sarcastic or put people down.
- Allow silence. Silences can be uncomfortable (particularly for non-Indigenous participants), but they allow time for people to think. Sometimes it is good to build some silent times into the session.
- Encourage the use of clear language. If someone uses an acronym, jargon or big word, ask "What does that mean?"

A facilitator's story: 'One strategy that can help shy people feel more comfortable is talking with them one-to-one in a break and helping them to see how valuable their input will be to the group. I saw this happen once where a health worker attending a meeting about national research priorities was initially too nervous to say anything, but after the facilitator spoke with her in this way at a break, she spoke up strongly and ended up making an enormous contribution to the meeting.'

Step 5: Staying on track

Skilled facilitation means ensuring that a session achieves its aims within the allocated timeframe.

Managing progress and time are the responsibility of the facilitator. Some tips for staying on track include:

- Start at the set time; don't be tempted to wait for people. Waiting encourages lateness that will flow through with people returning from breaks.

- Be clear about the parameters of the session. Some participants see a group session as a place to raise any issue bothering them. If issues are raised that are beyond the scope of the session, record them on butcher's' paper ('park' them in the parking lot) and post up on the wall. Commit to passing these on to management if they are still considered relevant at the end of the session.

- Watch for signs of tiredness and change rhythm or pace in the session to help participants re-focus. Have a break if necessary.

- If side conversations are happening

    - Give the group a friendly reminder, then if it persists, remind those having the side-conversation directly: "Remember our ground rules: one person at a time talking."
    - Gradually move toward and stand near the people who are talking. This is usually enough to halt the disruptive behaviour.
    - As a last resort, ask one of the talkers to summarise the last point for the purpose of recording.

- If the group has trouble coming to an agreement, for example in scoring the systems assessment items, there are some strategies that can help move the discussion along:

    - Move to close the item by putting to the group: "We need to focus as a group on this particular item. What do we need to do to get this item concluded?"
    - Summarise what has been discussed: "From what I'm hearing, it sounds like you might be saying it should score a 5, for these reasons that you've given…"
    - If scoring SAT items, ask each member to score each item individually and see which is the most common score given, or work out the average of the scores.

Facilitation with adult learners in a health centre setting

There are aspects of the health centre environment that need to be taken into account when planning and facilitating sessions at a local health centre. For example:

- Staff directly involved with patients may feel enormous pressure that they are being diverted from their primary role of providing care. In crises, clinical care will always take priority.

- Traditionally, medical institutions are characterised by 'top-down' power structures, where typically doctors or specialists are in charge, and nurses and health workers obey authority. These traditions may be changing, but may have an influence on learning and personality styles and behaviour during a facilitated session.

- As in any organisation, managers and leaders expect to, and are expected to, manage and lead. Individual staff may feel a particular sense of ownership over a particular area, and feel threatened by that area coming under scrutiny through an audit – even though the audit report is a 'whole of health centre' responsibility.

- Indigenous primary health care centres may have additional or different power relationships at play. For example, community controlled boards, board members and elders can be highly influential.

- The role and value of health workers can be a point of tension or of strength in the health centre. Cultural difference can likewise be both a strength and a source of tension, bringing valuable diversity of views but also potential misunderstandings. These tensions need careful handling, but should not be ignored.

Whatever the context, facilitation that encourages everyone in the group to have a say—respectfully—can be seen as a threat to existing power relationships. At times, powerful emotions such as frustration or anger might emerge, either during the facilitated session or later. As the facilitator, think about how these situations can be managed. It can be useful to talk with the group about how the process might affect them.

A skilled facilitator develops out of experience. Experience brings heightened understanding of group dynamics and of the effective use of different techniques. New skills will be refined by testing in different contexts. Every session will bring a different experience. Experimenting with different techniques will help build understanding and confidence over time.

One of the world's most famous facilitators, Thiagi (full name: Sivasailam Thiagarajan), was asked how long it takes to prepare for a session. He replied: 'Your whole life.'

For information about Thiagi's playful approach to facilitation, see **www.thiagi.com**.

Glossary

Term	Meaning
Accreditation	Accreditation is a certification process that acknowledges that an organisation has met a set of standards that define a minimum standard of quality for that organisation.
Action planning	A planning process to identify the resources needed, responsibilities, milestones and timelines for completion of each step required to achieve a goal.
Albumin Creatinine Ratio (ACR)	A clinical indicator of kidney function.
Audit and Best Practice for Chronic Disease (ABCD) Project	Also: Audit and Best Practice for Chronic Disease Extension (ABCDE) Project. A research project that demonstrated the effectiveness of the CQI process and developed clinical audit and system assessment tools that are now part of the One21seventy CQI cycle.
Australian Primary Care Collaborative	A quality improvement program delivered through Divisions of General Practice. Previously called NPCC (National Primary Care Collaborative).
Axis/axes	A part of a graph that provides measurement (of variables, scores, etc.). 'Axes' is the term used for more than one axis, for example, a systems assessment radar plot has 5 axes: one for each component.
Bar graph	A visual representation of data using horizontal or vertical 'bars' to indicate the score or measurement of groupings of data.
Client list	A list of health centre clients who meet the criteria for inclusion in an audit. Sometimes referred to as a 'population list'.
Clinical audit	A systematic review of the information that has been recorded in clinical patient records about a particular type of health care (e.g. maternal and child health care, preventive services).
Clinical audit tools	Tools for collecting data in order to carry out a clinical audit.
Cluster	A group of health centres using the One21seventy CQI cycle, tools and services. A cluster is defined by agreement with the participating health centres and the agency funding their participation. They may reflect administrative arrangements (such as districts or regions) or other arrangements related to CQI support.
COAG Chronic Disease Package	An $805.5 million funding program of the Australian Government as part of the National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes, commenced in July 2009.
Communicare	One of several electronic clinical/patient information systems in use in Australian primary health care.

Confidence interval	A measurement of the degree to which a sample is likely to accurately represent the larger population from which it is drawn. A 90% confidence interval means that there can be 90% confidence that the results from the sample will be within a specified range (e.g. 5-10%) of the result that would be gained if the entire population were sampled.
Continuous Quality Improvement (CQI)	An approach to health centre management emphasising an ongoing or continuous process of evaluation in order to improve performance.
Cooperative Research Centre for Aboriginal Health (CRCAH)	A partnership of 12 research, Indigenous health service and government agencies funded under the Australian Government Cooperative Research Centres Program from 2003-2009.
Dashboard	Notice board style page useful for up to date information about One21seventy.
Denominator	The bottom number in a fraction. The denominator reflects the whole of which the numerator (the top number in a fraction) is part. In One21seventy CQI clinical audit reports, the denominator represents the number of records included in that particular part of the audit.
Divisions of General Practice	Regional and State/Territory support networks for general practitioners.
Exclusion criteria	Criteria set out in the clinical audit tool protocol about those clients that should not be included in a clinical audit using that audit tool.
Ferret	One of several electronic clinical/patient information systems in use in Australian primary health care.
Folate	A vitamin recommended prior to and during pregnancy to reduce the risk of birth defects.
Goal setting	A process of identifying and prioritising specific goals in relation to areas of service delivery or care that have been identified as needing improvement.
Health authority	An organisation such as a State or Territory health department that may include numerous health centres or regional services.
Health centre	A single health centre, providing care to a local population.
Health Centre and Community Survey (HCCS)	A One21seventy tool for collecting information about a local health centre's operating environment.
Health service	An overarching organisation that manages a number of health centres.
Healthy for Life Program	An Australian Government funding program that encourages the use of continuous quality improvement cycles for the delivery of health care programs by Indigenous health services and health centres.
Inclusion criteria	Criteria set out in the clinical audit tool protocol about those clients that should be included in a clinical audit using that audit tool.

Indian Health Service	An agency within the United States Department of Health and Human Services, responsible for providing federal health services to American Indians and Alaska Natives.
Key or legend	A label on a graph that explains how different data are represented in that graph. For example, using a different colour for each year's data.
Local CQI facilitator	A person whose role is to provide CQI support to a single health centre. Often this person will have other roles or other titles, such as Chronic Disease Coordinator or Health for Life Coordinator. Usually they will be employed at the local health centre.
Medical Director	One of several electronic clinical/patient information systems in use in Australian primary health care.
Medicare	Australia's universal health insurance program.
Medicare number	Identifying number allocated to each person registered with Australia's Medicare system.
Numerator	The top number in a fraction. In One21seventy clinical audit reports, the numerator represents the number of records that have met the specified criteria (out of all those included in that part of the audit.)
Percentage	A part (e.g. 20%) of a whole (100%) expressed in hundredths.
Plan, Do, Study, Act (PDSA) process	A commonly used framework for action learning or continuous improvement.
Protocol	A document that provides a detailed step-by-step guide to the use of an audit tool.
Radar plot	Also called 'spider', 'web' or 'star' chart or graph. In the One21seventy CQI cycle, the five arms or axes of a radar plot are used to represent self-assessed scores for a local health centre's systems assessment components.
Random sample	A sample or subset of a population that is selected at random (by chance) rather than by making deliberate choices.
Raw data table	A table presented at the front of a clinical audit report listing scores for all indicators covered by the audit tool.
Regional CQI coordinator	A person whose role it is to provide CQI support to a number of health centres. This person may be employed by a cluster, State or Territory health service, or by a peak body such as the Aboriginal Medical Services Alliance of the Northern Territory (AMSANT). Regional CQI coordinator is not necessarily a position title, but describes a role undertaken as part of an individual's duties.
Sample	A smaller subset of a large data set (such as a client list) that is used to represent the larger data set. Mathematical formulae are used to make sure the sample is a good representation of the larger data set.

Service Agreement	A legal contract between the Menzies School of Health Research (the legal entity under which One21seventy operates) and the regional authority that has decision making capacity and contracts One21seventy to provide services. The regional authority might be a State or Territory health service, a regional health service, or some other body.
Stacked bar graph	A bar graph in which categories of data are represented stacked on top of each other. This is useful for showing how a total sample is broken up into a small number of categories.
Stratification (of a sample)	A stratified sample is one where the selection of records is divided into groups to more accurately reflect identified groups within the population, such as age groups or gender.
Support, Collection, Analysis and Reporting Function (SCARF)	A support service for health centres funded under the Australian Government Healthy for Life Program. SCARF supports health centres to improve the quality of data collected and use it for local purposes.
Systems assessment	A process for assessing the strengths and weaknesses of an organisational system in order to identify areas where improvement might be made.
Systems Assessment Tool (SAT)	The One21seventy Systems Assessment Tool (SAT) has been specifically designed to support Australian primary health care centres to identify the strengths and weaknesses of organisational systems that support the delivery of specific areas of care for Aboriginal and Torres Strait Islander people.
Web-based information system	The One21seventy web-based information system is the main source of information, tools and resources related to the One21seventy CQI cycle. It provides access to current versions of the clinical audit tools and associated protocols, Health Centre and Community Survey and Systems Assessment Tool. It is used to enter and analyse data and generate reports.
Website Data Access Form	This form must be signed by a local health centre manager and submitted to gain access to the health centre's data through the One21seventy web-based information system.

References and further reading

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