PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Prevention and management of chronic disease: analysis of performance on selected clinical indicators in Aboriginal and Islander Community Controlled Health Services in Queensland
AUTHORS	Gardner, Karen; Panaretto, Katie; Button, Selwyn; Carson, Adrian; Shibasaki, Rhonda; Wason, Gail; Baker, David; Mein, Jacki; Dellit, Amy; Lewis, Don; Ring, Ian

VERSION 1 - REVIEW

REVIEWER	Dr Michelle DiGiacomo Senior Research Fellow Faculty of Health Centre for Cardiovascular and Chronic Care University of Technology Sydney Australia
REVIEW RETURNED	01-Nov-2012

THE STUDY	There are no supplemental documents that require better explanation in the manuscript.
GENERAL COMMENTS	This was a very well-written manuscript reporting on Queensland ACCHS performance in chronic disease management. I found very little fault with this paper. I believe this paper will make an important contribution to the literature and will serve as an example for other ACCHSs in evaluation of performance in chronic disease management.

REVIEWER	Patricia M Davidson Centre for Cardiovascular and Chronic Care Faculty of Health University of Technology Sydney Australia I have no competing interests
REVIEW RETURNED	11-Nov-2012

GENERAL COMMENTS	1. Please provide greater context for the information of international readership - eg Close the Gap Campaign and socio-cultural and political issues in Australia- eg in Indigenous identification, funding models 2. Please provide more description of issues in data management 3. How are standardised data definitions dealt with? 4. Please provide more detail of the implications for policy, practice and research. 5. Please ensure all figures and tables stand alone- eg have a glossary

	6. Please provide an estimate of the financial costs of this quality monitoring In summary, this paper is jargonistic that limits the accessibiltiy of important information for those external to the sector. These issues should be considered in the context of an international readership and the implications for data driven clinical improvement processes in vulnerable populations

REVIEWER	McDermott, Robyn University of South Australia, Sansom Institute for Health Research
REVIEW RETURNED	16-Nov-2012

GENERAL COMMENTS	This report aims to document clinical quality measures for chronic disease management and child health checks in a group of Indigenous community controlled health services in Queensland over a two year period, 2010-12. The main outcome measures were the proportion of regular clients who had selected key health checks over the reporting period, plus some selected clinical indicators (diabetes, heart disease, renal disease, hypertension, plus BMI and tobacco and alcohol use). This is a very interesting paper however some aspects of the methods and results are difficult to follow. The introduction describes the key element of this QI process, namely the introduction of an automated clinical audit tool (CAT) which can extract data from the participating health services' electronic health information systems on a regular basis and generate reports for each service, for key performance indicators: in this case, delivery of prescribed regular health checks on a population basis. However, reference (3), which describes this platform, is a paper apparently submitted for publication elsewhere, so is unhelpful to this reviewer. Because Australian primary health care is not population-based, the best approximation for the "denominator" population is the "regular" patient numbers, defined as anyone who has made 3 visits to the service within 2 years, one of which is in the 6 months prior to the audit. It is not clear what the basis for this particular definition is, and it would be useful to understand that, and how this compares with other approximations for regular service clients, or even how that definition was arrived at. Also, it would seem that this denominator may change over time. In table 1, which details client numbers at 5 time points to February 2012, data appear to be included for only 14 services. It is not clear if the denominators used in the figures relate to those in table 1. Clarification of numerators and denominators would be useful in the methods section so the reader can follow the meaning of the different proportions reported. In particular, out of 12,325 regular adult Aboriginal and Islander (A&I) patients, it seems 5,296 were current smokers and 2,255 had diabetes, however it is not clear if all 12,325 had a health check for these things, or whether these were a subset with known conditions. The methods section needs to clearly

	establish numerators and denominators for the proportions reported, as these appear to change with the condition, and over time. Also, it would be useful to understand the basis for describing a process as “excellent”, “good”, “acceptable” or “poor” and how these benchmarks might compare with other similar reports in the published literature. In Figure 1, the footnote defines what the proportions mean for each condition, including “HbA1c for patients with type 2 diabetes”, but HbA1c is not included in the figure. Is this an oversight? Is the eGFR data for all regular adult Indigenous clients, or only those on a renal, hypertension or diabetes register? In Figure 2, why is BMI>30 reported only for females? Similarly, the proportion of patients with eGFR<60 mls/minute (15%) – is this just for those who had eGFR measured, or all patients? Overall, it would be easier for the reader to follow if the data were presented in a format which would enable a clearer exposition of numerators and denominators: This would include the regular population seen by the participating services, the proportions who had regular checks as prescribed for their risk status, the numbers on specific chronic care registers (and care plans), of these, the numbers (and %) getting key checks, the proportion receiving care according to their plan, and the proportion of those on care plans who achieve intermediate clinical goals (eg BP control, glycemic control, lipid targets, weight targets, smoking cessation etc). The Ethics Process does not seem to include approval from an ethics committee. While strictly this may not be required under the service agreement between member services and QAIHC, most studies of this sort have been reviewed by an ethics committee to ensure compliance with national standards. A minor point, there seems to be a typo on page 7, line 57: “seemless”

VERSION 1 – AUTHOR RESPONSE

Reviewer: Patricia M Davidson

1. We have provided further background regarding the key issues in Indigenous health related to Close the Gap in the Introduction to the paper.
2. The text in the methods has been enhanced to better cover issues pertaining to data definitions and data management.

The table below is taken from: Core Performance Indicators, Version 2, Updated September 2010, Queensland Aboriginal and Islander Health Council, Brisbane.
http://www.qaihc.com.au/resources/publications/

Table 2 Glossary of terms used in indicator definition
Term Definition

Adult Unless otherwise noted, a person 15 years or older.1

Disease register A register of the clients of the service who have the particular disease or condition. In practice, disease registers are dynamically derived by the EMR from the clients' (coded) medical histories.

Indigenous A person who self identifies as Aboriginal and or Torres Strait Islander.

Recent attender A patient of a Service who has attended at least once in 6 months prior to the date of running a QAIHC Indicator report

Active client A person who has attended the service at least three times in the past two years. This is the definition currently defined in the Glossary of the RACGP standards.

Reporting date The date on which the reported indicators are calculated.

Reporting period The period prior to the current reporting date over which the indicator is calculated. Unless otherwise stated the reporting period is six months.

1 For simplicity of reporting, a common definition of adult is used across all indicators unless otherwise specified.

3. and 4. Our addition in the introduction (referred to above) provides a better context for the discussion on implications for policy, practice and research which we have extended in the conclusions section of the paper.

5. All figures and tables have been updated to ensure they are stand alone.

a. Figure 1 has been amended – HBA1C was omitted for some reason

b. Additional figures on health checks and diabetes care have been added – see Robyn McDermott's comments

6. Provision of estimates of the financial costs of this program is beyond the scope of this paper.

Reviewer: Robyn McDermott
University of South Australia, Sansom Institute for Health Research

However, reference (3), which describes this platform, is a paper apparently submitted for publication elsewhere, so is unhelpful to this reviewer.

This reference has now been changed.

Because Australian primary health care is not population-based, the best approximation for the "denominator" population is the "regular" patient numbers, defined as anyone who has made 3 visits to the service within 2 years, one of which is in the 6 months prior to the audit. It is not clear what the basis for this particular definition is, and it would be useful to understand that, and how this compares with other approximations for regular service clients, or even how that definition was arrived at. Also, it would seem that this denominator may change over time.

There are multiple definitions for a "regular" patient in use in primary health care derived indicator sets in Australia. In brief:

Healthy for Life program (2007): Regular client includes any person who has a record of having attended the service for any reason at least twice during the 24 months preceding the end of the reporting period.

Northern Territory KPIs (2010): A resident is an individual who is identified as a regular client of the health service, who usually resides in the community serviced by the health centre, and has been present in the community for at least 6 months of the reporting period, and has had some contact with the health service in the previous 2 years, and is not deceased, as at the end of the reporting period.

RACGP - Standards for general practices: 4th edition – October 2010: Define an Active patient: A patient who has attended the practice/service three or more times in the past 2 years

The QAIHC definition was established as part of the 'QAIHC Core Indicator' project 2006 -2009. In this project an expert group reviewed Indicator sets available at the time, circulated suggested indicators and definitions amongst QAIHC member clinicians to come up with a consensus based set

of indicators – the QAIHC Core Indicators in October 2009. These were designed to provide an overview of service performance on key clinical care activities and a snapshot of the service users health status. The QAIHC definition of a "regular" patient (defined as anyone who has made 3 visits to the service within 2 years, one of which is in the 6 months prior to the audit) has now been broadly adopted in the Indigenous community controlled sector. Two current projects include:
a. National technical Working group on nKPIS and where the options for the definition of a regular patient or client were reviewed by an expert consultant and the QAIHC definition adopted. National Key Performance Indicators for Indigenous Specific Primary Health Care Services – Published as Indigenous Primary Health Care Key Performance Indicators. Australian Institute of Health and Wellbeing - METeOR, Metadata Online Registry 2011.
http://meteor.aihw.gov.au/content/index.phtml/itemId/457994
b. Torpedo – The Treatment of cardiovascular Risk in Primary care using Electronic Decision suppOrt (TORPEDO) study: intervention development and protocol for a cluster randomised, controlled trial of an electronic decision support and quality improvement intervention in Australian primary healthcare. Peiris D, Usherwood T, Panaretto K, Harris M, Hunt J, Patel B, Zwar N, Redfern J, Macmahon S, Colagiuri S, Hayman N, Patel A. BMJ Open2012;2:e002177 doi:10.1136/bmjopen-2012-002177
Because the data are derived from 'live' EMRs in medical clinics, yes the denominator does change over time as the clinic workload varies.

In table 1, which details client numbers at 5 time points to February 2012, data appear to be included for only 14 services.
This is correct participating services in the collaborative are asked to submit indicator data monthly. Not all services manage to submit data every month, for varying reasons .
However the link between an EMR that 4 services use – Communicare – to Pen CAT was only built in the latter half of 2011. The link was inconsistent with some data definitions initially and only became reliable in March 2012. So data from these 4 services was first collected from August 2011 but it was omitted for integrity reasons until March 2012.

It is not clear what the basis for this particular definition is, and it would be useful to understand that, and how this compares with other approximations for regular service clients, or even how that definition was arrived at. Also, it would seem that this denominator may change over time.
In table 1, which details client numbers at 5 time points to February 2012, data appear to be included for only 14 services. It is not clear if the denominators used in the figures relate to those in table 1. Clarification of numerators and denominators would be useful in the methods section so the reader can follow the meaning of the different proportions reported. In particular, out of 12,325 regular adult Aboriginal and Islander (A&I) patients, it seems 5,296 were current smokers and 2,255 had diabetes, however it is not clear if all 12,325 had a health check for these things, or whether these were a subset with known conditions. The methods section needs to clearly establish numerators and denominators for the proportions reported, as these appear to change with the condition, and over time.

Denominators for the tables have been made more explicit in the methods section. The data relates to all patients attending these participating services. A sub set of this group is all adult patients, with further subsets being patients with cardiovascular disease and diabetes mellitus type 2. The data derive and are reported for all adult patients using the service not the sub set who have had a health check.

Also, it would be useful to understand the basis for describing a process as "excellent", "good", "acceptable" or "poor" and how these benchmarks might compare with other similar reports in the published literature.
These terms have been omitted and where appropriate the terms high or low used or rounded proportions have been used.

In Figure 1, the footnote defines what the proportions mean for each condition, including "HbA1c for patients with type 2 diabetes", but HbA1c is not included in the figure. Is this an oversight?
Yes this has been amended

Is the eGFR data for all regular adult Indigenous clients, or only those on a renal, hypertension or diabetes register?
the eGFR data is for all adult patients who have been tested. Australian guidelines recommend testing annually for all patients who are or have a:
- Aboriginal or Torres Strait Islander and over 30 years of age
- Chronic disease – diabetes, hypertension

(Guidelines for preventive activities in general practice (the red book) 8th edition, 2012, RACP Melbourne - http://www.racgp.org.au/download/Documents/Guidelines/Redbook8/redbook8.pdf)

In Figure 2, why is BMI>30 reported only for females?
We have added males but this figure presents a selection of data only as an example of activity that can be conducted by a single clinician.
Similarly, the proportion of patients with eGFR<60 mls/minute (15%) - is this just for those who had eGFR measured, or all patients?
This figure has had text added to indicate this group is a subset of those adults who have had an eGFR recorded. We have the data for the other renal function sub groups but had for brevity included 1 group, with the poorest function only.
Overall, it would be easier for the reader to follow if the data were presented in a format which would enable a clearer exposition of numerators and denominators: This would include the regular population seen by the participating services, the proportions who had regular checks as prescribed for their risk status, the numbers on specific chronic care registers (and care plans), of these, the numbers (and %) getting key checks, the proportion receiving care according to their plan,
The data is presented as suggested above and should have greater clarity.
and the proportion of those on care plans who achieve intermediate clinical goals (eg BP control, glycemic control, lipid targets, weight targets, smoking cessation etc).
The data extracted for the QAIHC Core indicators are aggregated to service level. These data comprise a service overview to guide the CQI team in its support of services where there appears to be less capacity. The services via the PEN CAT tool, electronic decision making tools and other data sets such as the APCC program measures can examine their data for patients on their chronic disease registers more closely to monitor the achievement of BP, lipid targets as per guidelines.

The Ethics Process does not seem to include approval from an ethics committee. While strictly this may not be required under the service agreement between member services and QAIHC, most studies of this sort have been reviewed by an ethics committee to ensure compliance with national standards.

This work has not been had formal ethics committee review – we have changed the title of the section.
This paper reports on work undertaken by QAIHC to further enhance the information participating services have to use in monitoring service delivery and their planning. The data collation and analysis is undertaken with the knowledge and consent of the community controlled member services. These results have been fed back to services via reports and presentations at quality improvement workshops, where use and understanding the data at a state level, is a key part of the quality assurance process.

A minor point, there seems to be a typo on page 7, line 57: "seemless"
This has been amended.