Reasons for non-attendance: audit findings from a nurse-led clinic

Jill Wilkinson RN PhD,[1] **Mary Daly** RN NP MN[2]

[1] Massey University, Wellington

[2] Nurse practitioner, Older persons and rehabilitation service, Hutt Valley DHB

ABSTRACT

BACKGROUND AND CONTEXT: Evidence has shown that non-attendance at clinics occurs for a variety of reasons and impacts negatively on client outcomes and effective use of clinic resources. This paper reports an audit of non-attendance at Care Plus and diabetes clinics undertaken between October 2007 and October 2008, in a large general practice in the Wellington region.

ASSESSMENT OF PROBLEM: A retrospective and prospective audit of the non-attendance rate at nurse-led wellness clinics was completed using the Query Builder function in Medtech32, collecting data from 142 people who did not attend a scheduled appointment.

RESULTS: Thirty-three people were unable to be contacted about their reason for not attending. Of those contacted, 68 did not attend because they were unaware of the appointment, confused regarding the appointment time, or simply forgot. Eighty-four people were aged between 18 and 65 years, yet of those contacted, only four cited work had prevented their attendance at the clinic. Difficulty with transport was reported by only two people.

STRATEGIES FOR IMPROVEMENT: The audit highlighted the importance of administration processes for scheduling routine appointments and reminding patients about appointments. It provided evidence that administrative support for nurse-led clinics is necessary.

LESSONS: Involvement in clinical audit was a new experience for many of the staff and the usefulness of the findings led to more positive views about how audit can be used. The importance of appropriate administrative support was highlighted. Lessons learned for future audits included the importance of a complete data set and consistent use of codes for data entry.

KEYWORDS: Audit; primary care; non-attendance

Background

Non-attendance at primary care clinics is complex and multifactorial.[1] Attendance is influenced by age, with those aged 17–40 years[2] and those over 60 years most likely to miss appointments.[3] People forget about the appointment,[2,3] have employment commitments,[1,4,5] are afraid of bad news,[1] have transportation difficulties,[5] find the clinic hours and geographical location inconvenient[1,4] and experience prolonged waiting times and administrative error.[1] Those with chronic conditions are more likely to keep appointments.[2] The evidence in the literature also suggests that men seem more reluctant to seek medical advice than women.[6,7,8]

Use of prompts to remind people of appointments has been shown to reduce non-attendance rates. Both telephone and text messaging is effective,[9,10] but telephone contact is best done after-hours to maximise contact rates.[10]

The requirement to use evidence to inform practice has been central to health care for many years. While health practitioners are familiar with this, how it translates to changing practice for individual workplaces and the impact on how

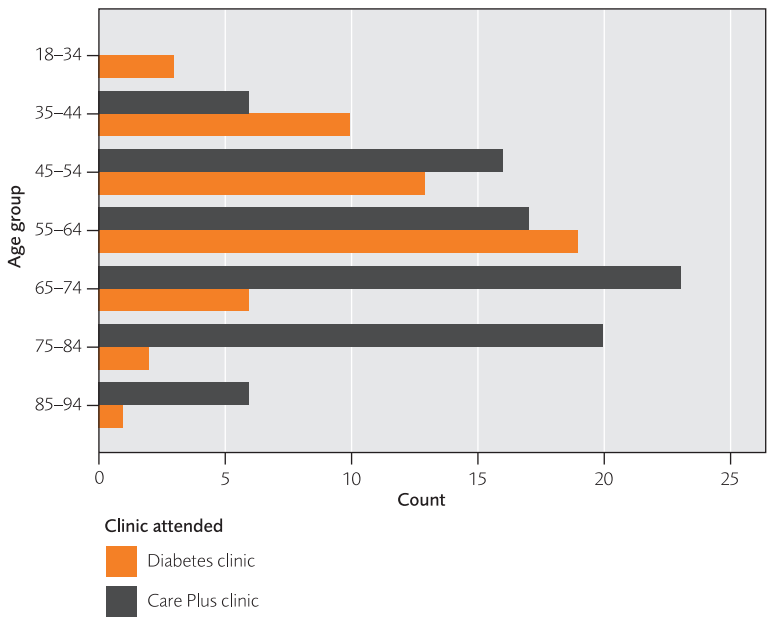
J PRIM HEALTH CARE 2012;4(1):39–44.

CORRESPONDENCE TO:
Mary Daly
Older Persons and Rehabilitation Service
Hutt Valley DHB
Private Bag 31-907
Lower Hutt 5040
Mary.daly@huttvalleydhb.org.nz

Table 1. Ethnicity and quintile

Ethnicity	Quintile n (%)					Total
	1	2	3	4	5	
NZ European	12 (8)	23 (16)	31 (22)	26 (18)	9 (6)	101 (71)
Maori	2 (1)	1(0.7)	2(1)	9 (6)	5 (3)	19 (13)
Pacific	1 (0.7)	1(0.7)	6 (4)	5 (3)	6(4)	19 (13)
Asian	0	0	0	2(1)	1(0.7)	3 (2)
Total	15 (11)	25 (18)	39 (27)	42 (30)	21 (15)	142 (100)

Figure 1. Age group and clinic attended



care is delivered can be less clear. Audit can have a more immediate effect on practice by highlighting specific issues that are easily amenable to change. As well as reporting the results of an audit, this paper will demonstrate how easy it is to use audit as a means of gathering information and then to make changes to the way care can be provided.

The electronic practice management system Medtech32 is commonly used in primary care settings. This system incorporates demographics, patient management functions including electronic clinical notes, laboratory and imaging results and recall systems, along with accounting and reporting requirements within one electronic system. The 'Query Builder' function in Medtech32 is an audit tool that allows health practitioners to ask specific questions and draw down data that can be used in many different ways. As a result clinical information can be linked easily to patient demographics and services improved.

Nurse-led wellness clinics for people with long-term conditions are well established within primary care in New Zealand. The Care Plus programme focuses on those with multiple comorbidities, while the diabetes clinic has a specific disease focus. Both provide increased clinician time, usually nursing, to develop a plan of care and provide ongoing support for people and their families. An 11% non-attendance rate in a large general practice in the Wellington region for nurse-led Care Plus and diabetes clinics resulted in unused clinic time and frequent re-scheduling of appointments. The purpose of the audit was to find out which groups of people were non-attendees and what factors were contributing to non-attendance. It was hoped the audit would usefully inform future service planning.

Context

The general practice at which the audit was completed provides primary health care for 42% of the local community or approximately 16 344 people. The demographics of the enrolled population for the main ethnic groups are as follows: New Zealand European 82%, Maori 11%, Asian 4% and Pacific peoples 3%. In comparison to all New Zealand, these percentages are higher for New Zealand European groups and less for Maori, Asian and Pacific peoples.[11]

The Care Plus and diabetes clinics form an integral part of the wellness programme offered by the practice for people with long-term conditions. Allocated nursing resource and time consisted of 1.8FTE and included an outreach service. Nurses work closely with the GP and administrative staff to ensure the needs of people attending the service are met. The booking process in place consisted of a recall system and mailing appointment letters and reminders. The diabetes clinic had administrative staff support for these tasks, but the Care Plus clinic bookings were managed by the nurse.

Method

Audit was chosen as a means to explore non-attendance at Care Plus and diabetes clinics as we were seeking to improve patient access to services. Audit can provide objective evidence about a problem as well as highlight areas of good practice. As part of a quality process, data on non-attendance of clinic appointments was already being collected. An audit tool to assist in more detailed data collection was developed based on existing data categories and factors identified in the literature. Variables collected included age, ethnicity, sex, quintile, primary diagnosis, comorbidities, booked clinic and reasons for not attending the appointment. The audit tool was applied to collected data six months retrospectively and six months prospectively to provide a sample spanning a whole year. Ethics approval for the audit was obtained through the expedited review process of the Central Health and Disability Ethics Committee. No patients are identifiable in the study.

Utilising Medtech32 to collect data can be done in a number of ways. For this audit the 'contacts' section of the system was used, which allows providers to record short notes regarding patient contacts. Each person who did not attend a scheduled appointment was contacted by a nurse and the reason ascertained. Reasons were recorded using the following codes: 'DNA DC' (did not arrive—diabetes clinic) or 'DNA CP' (did not arrive—Care Plus), followed by the reason. Contact notes can be viewed on the screen, and if coding has been used during information insertion, drawn out collectively using a Query Builder.

A Query Builder was developed to extract the required data. At the end of the data collection period, the information was printed and then manually inserted into the statistical software SPSS (version 17.0) for descriptive analysis.

WHAT GAP THIS FILLS

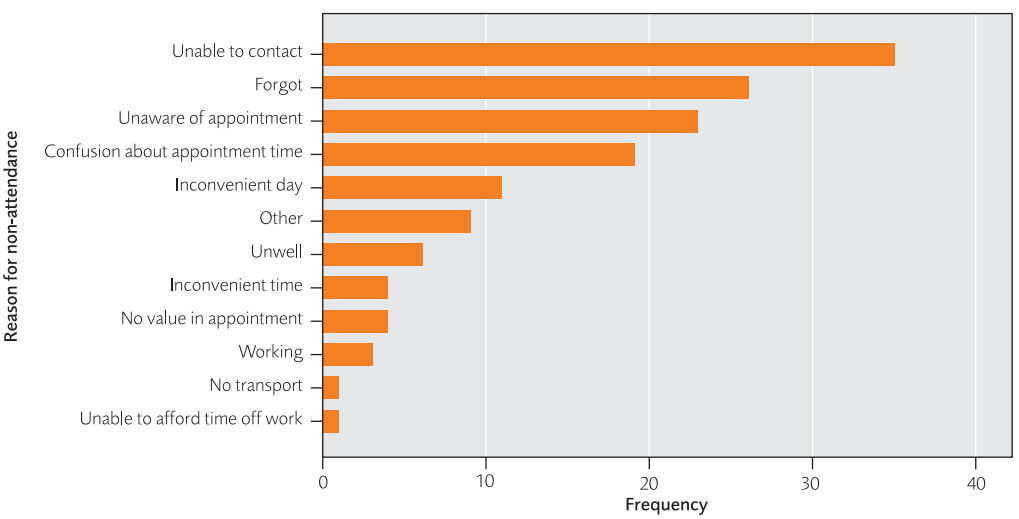
What we already know: Reasons for non-attendance at scheduled primary care appointments are complex. Multiple approaches have been utilised with varying success in an attempt to reduce non-attendance.

What this study adds: This study shows that audit is a useful tool that can provide answers to specific practice problems. In this instance audit was used to identify reasons for non-attendance at scheduled nurse-led wellness appointments. A system of text reminders to patients about booked appointments was then developed.

Results

The sample comprised all those who did not attend a scheduled appointment at either of the clinics over a 12-month period (n=142). The two clinics were compared with the enrolled population for variations in gender, ethnicity

Figure 2. Reason for non-attendance



and deprivation scale. Women were represented slightly more than men in the findings. The ethnic breakdown showed that while New Zealand European people comprised the largest group at 71%, they were under-represented in proportion to the enrolled population of 82%. Pacific people were over-represented, accounting for 13% of non-attendances while comprising 3% of the enrolled population. Maori non-attendance (13%) was slightly higher than the enrolled population of 11%. Both quintile scores and age groups were representative of the overall enrolled population at the practice. Table 1 shows the distribution of ethnicity across quintile (1=least deprived; 5=most deprived).

Care Plus clinics had a 9% non-attendance rate and were held five times per week, averaging six appointments per day. The diabetes clinics were held twice weekly, with a total of 20 appointments for the week and had a 13% non-attendance rate. Thirty-eight percent (n=54) of the audit sample were from the diabetes clinic, compared to 62% (n=88) for Care Plus clinic appointments. Chi square analysis shows a significant difference in ages attending each of the clinics: χ^2 (6, N=142) = 26.03, p<.0001. There were no other significant differences in demographics between the groups. Figure 1 shows the age distribution for each clinic.

Fifty-seven percent (n=81) of the sample had a primary diagnosis of diabetes (Type 1 or 2), which can be attributed to the diabetes clinic being disease-specific, whereas Care Plus clinics incorporate multiple long-term conditions. Further analysis of the data in relation to specific long-term conditions was limited by the Medtech32 system which does not allow differentiation between a long-term classification and the primary diagnosis related to each visit; therefore the following assumptions were made. Firstly, if a client was scheduled to attend the diabetes clinic, diabetes was assumed to be the primary diagnosis. This accounts for the large number of people having a primary diagnosis of Type 2 diabetes (T2DM). Secondly if a client had a comorbidity that was a risk factor for another long-term condition, for example dyslipidemia and cardiovascular disease, then the primary diagnosis was recorded as cardiovascular disease. There was no limit put on the number of comorbidities recorded per individual.

The most common comorbidities were 'other' conditions (n=72), hypertension (n=60), cardiovascular disease (n=57) and respiratory disease (n=34). 'Other' conditions varied widely and included orthopaedic, neurological, thyroid, haematological, gastrointestinal, ophthalmological conditions and obesity. The number of comorbidities each person experienced ranged from one to 13, with almost half of the sample having either two or three. Five people who did not attend the Care Plus clinic had no comorbidities listed.

Those able to be contacted by a nurse after the missed appointment (n=107) stated they were confused about appointment times (n=19), unaware of the appointment (n=23) or simply forgot about it (n=26) (Figure 2). Two people with cognitive impairment were unaware of the appointment. Four people found no value in the appointment. Significant relationships using Chi square analysis were not found between any of the demographic, diagnosis or comorbidity variables, reason for not attending the appointment, or the clinic attended.

Work commitments or being unable to take time off work were cited in four replies. Fifteen people reported that the day or time was inconvenient, but did not state that this was due to work commitments. Of this group eight where 65 years or younger. Bereavement was cited in two cases. Only two people could not attend due to transport difficulties.

Other reasons given for not attending the appointment were due to being in hospital or prison, moving from the area, not having collected a blood glucose monitoring machine or having blood tests taken. One person had already cancelled the appointment.

Discussion

The most frequent reasons for missed appointments in this study were related to being unaware, forgetting or being confused about

the appointment time. These same reasons are the most prevalent cause of non-attendance at outpatient clinics reported in the literature.[4,12,13] Other research has found that when administrators stopped reminding patients of impending appointments 24–48 hours prior to the appointment, non-arrival rates doubled.[14] A randomised controlled trial in the United Kingdom found text messaging to be as effective as telephone reminders for reducing non-attendance rates.[15] The time interval between the reminder and the appointment is also an important predictor of attendance.[16] The usual procedure at this practice was to send appointment letters for the diabetes clinic two months before the appointment, with a second reminder letter sent 10 days prior. The process for booking Care Plus appointments was less structured with an interval range between two months and one to two days. An organised reminder system of text messaging or evening phone call found to reduce non-attendance rates successfully in other studies was not in place when data were collected for this study.

Such a low number of work-related issues was unexpected given that 84 people who did not attend their appointment were aged 18–65 years and were perhaps likely to be in employment. Research by others has found that work commitments are a common reason people fail to attend outpatient appointments.[4,6] That so few cited work as their reason for non-attendance suggests people prioritise their appointment because they consider it to be valuable. It is, of course, possible that work commitments were the reason that some people reported inconvenient time or day. A useful variable to have included in this study would have been employment status.

The low incidence of transport problems was also unexpected due to the high level of deprivation in the sample. Transport difficulties has been identified by others as a reason for not attending clinic appointments, although findings show the significance is variable.[4,5,13] In this study, only two people put forward transport as a reason for not attending the clinic. A subsidised taxi service has been available through the Primary Health Organisation and for future planning it would be useful to link the study cohort to usage of this service.

The importance of maintaining accurate records was highlighted in relation to the five people who were booked for Care Plus, but did not have a second long-term diagnosis. As the eligibility criteria for Care Plus includes having two or more long-term diagnoses, a likely reason is that each person met this criteria, but the diagnosis was not recognised as long-term and was therefore not identified by Medtech32's Query Builder.

Nurses in this study deal with a similar mix of comorbidities to another recently completed New Zealand study[17] and draws attention to the complex needs of the people seen in these clinics. Good knowledge about long-term conditions and having a patient-centred approach has been recognised as being important for improving clinical outcomes for Care Plus patients.[18] Ongoing professional development will be important for nurses who work with such high-needs groups.

Previous research has found that Pacific people value community-based services when health care is provided in a place they feel comfortable, for example at a church.

The over representation of Pacific people in proportion to the enrolled population suggests a need to review how the service is delivered for this group. Previous research has found that Pacific people value community-based services[19] when health care is provided in a place they feel comfortable, for example at a church.[20]

Strategies for quality improvement

Not all people were contacted to ascertain the reason for not attending their appointment. As noted, some data were collected retrospectively and, certainly, as the study progressed there were fewer instances of failure to make contact, or document contact. Being involved in a clinical

audit was a new experience for many of the staff and the importance of a complete data set—which could only be achieved by correctly documenting the follow-up phone call—became increasingly apparent as the audit progressed. The importance of maintaining a correct electronic database has clinical implications regarding communication with other agencies and is important for accurate auditing purposes.

On completion of the audit, the findings were presented to relevant staff (nursing, administration and management) initially via a team meeting and to the wider staff electronically. It was felt that a team meeting would give those involved the chance to review the implications for practice. It was also an opportunity to examine the process around data collection and discuss the importance of using recognised codes consistently and appropriately to ensure comprehensive data collection.

Recently a Quality Administrator Officer was appointed whose role includes administrative support for both nurse-led wellness clinics. The findings from this audit added weight to the advantages of providing reminder calls or text messaging to patients one or two days prior to the appointment.

Lessons and messages

Lessons learned were that audit is easy if it is well planned and can be a tool to help improve clinical practice. The audit was both retrospective and prospective and used data that were being collected as part of a quality process. As such, the audit tool was not developed until after data collection commenced. This meant that nurses recording the reasons for non-attendance were initially unaware of the importance of using the codes consistently and appropriately.

Further audit is needed to assess non-attendance rates now that administrative support is available for both wellness clinics. The new process incorporates a reminder system for booked appointments. Text reminders were being trialled in other clinics at the centre and have now been implemented for the Care Plus and diabetes clinics.

ACKNOWLEDGEMENTS
We acknowledge Sheryl Corkin, IT/Projects Manager; Maire Mackle, Nurse Manager, and Margaret Ankcorn, Care Plus/outreach nurse at the Upper Hutt Health Centre.

COMPETING INTERESTS
None declared.

References

1. Paterson BL, Charlton P, Richard S. Non-attendance in chronic disease clinics: a matter of non-compliance? J Nurs Health Chronic Illn. 2010;2:63–74.
2. George A, Rubin G. Non-attendance in general practice: a systematic review and its implications for access to primary health care. Fam Pract. 2003;20(2):178–184.
3. Murdock A, Rodgers C, Lindsay H, Tham TCK. Why do patients not keep their appointments? Prospective study in a gastroenterology outpatient clinic. J R Soc Med. 2005;95:284–286.
4. Ngwenya BT, van Zyl DG, Webb EM. Factors influencing non-attendance of clinic appointments in diabetic patients at a Gauteng hospital in 2007/2008. JEMDSA. 2009;14(2):106–109.
5. Porter T, Le Lievre C, Lawrensen R. Why don't patients with diagnosed diabetes attend a free 'get checked' annual review? J Prim Health Care. 2009;1(3):222–225.
6. Frankel S, Farrow A, West R. Non-attendance or non-invitation? A case-control study of failed outpatient appointments. BMJ. 1989;298:1343–1345.
7. Green CA, Pope CR. Gender, psychosocial factors and the use of medical services: a longitudinal analysis. Soc Sci Med. 1999;48(10):136–1372.
8. Suominen-Taipale AL, Martelin T, Koskinen S, Holmen J, Johnsen R. Gender differences in health care use among the elderly population in areas of Norway and Finland. A cross-sectional analysis based on the HUNT and the FINRISK senior survey. BMC Health Serv Res. 2006;6:110.
9. Hogan AM, McCormack O, Traynor O, Winter DC. Potential impact of text message reminders on non-attendance at outpatient clinics. Ir J Med Science. 2008;177(4):355–358.
10. Roberts N, Meade K, Partridge M. The effect of telephone reminders on attendance in respiratory outpatient clinics. J Health Ser Res Policy. 2008;12(2):69–72.
11. Statistics New Zealand. 2006 Census of population and dwellings, ethnic groups. Available from: http://www.stats.govt.nz/Census/2006CensusHomePage/QuickStats/ AboutAPlace/SnapShot.aspx?type=region&tab=Culturaldiversity&id=9999999
12. Dockery R, Rajkumar C, Chapman C, Bulpitt C, Nicholl C. The effect of reminder calls in reducing non-attendance rates at care of the elderly clinics. Postgrad Med J. 2001;77:37–39.
13. Stone CA, Palmer JH, Saxby PJ, Devaray VS. Reducing non-attendance at outpatient clinics. J R Soc Med. 1999;92:114–118.
14. Johnson BJ, Mold JW, Pontious JM. Reduction and management of no-shows by family medicine residency practice exemplars. Ann Fam Med. 2007;5(6):534–539.
15. Liew SM, Tong SF, Lee VK, Ng CJ, Leong KC, Teng CL. Text messaging reminders to reduce non-attendance in chronic disease follow-up: a clinical trial. Br J Gen Pract. 2009;59(569):916–920.
16. Hamilton W, Luthra M, Smith T, Evans P. Non-attendance in general practice: a questionnaire survey. Primary Health Care Research & Development. 2002;3(4):226–30.
17. Carryer J, Budge C, Hansen C, Gibbs K. Providing and receiving self-management support for chronic illness: patient's and health practitioners assessments. J Prim Health Care. 2010:2(2):124–129.
18. Eggleton K, Kenealy T. What makes Care Plus effective in a provincial primary health organisation? Perceptions of primary care workers. J Prim Health Care. 2009:1(3):190–197.
19. Simmons D, Weblemoe T, Voyle J, Prichard A, Leakehe L, Gatland B. Personal barriers to diabetes care: lessons from a multi-ethnic community in New Zealand. Diabet Med. 1998;15(11):958–964.
20. Barwick H. Improving access to primary care for Maori and Pacific peoples. Health Funding Authority. Wellington; December; 2000.