



Student access to primary health care and preventive health screening at a school-based health centre in South Auckland, New Zealand

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Abstract

Aims. To determine where students usually access primary health care and compare the quality of preventive health services that students who use the school-based health centre (SBHC) receive to those who go elsewhere for health care.

Methods. A convenience sample of 20 classes were selected and surveyed in 2003. Three hundred and forty-three students completed the Young Adult Health Care Survey using a web-based questionnaire.

Results. While most students (79%) access health care from their family doctor, a significant number (40%) of students attended the SBHC in the last 12 months. Overall, health screening and preventive counselling from health care providers was low. Students who used the SBHC were more likely to receive private and confidential health care and preventive screening than students who go elsewhere for health care.

Conclusion. School-based health care provides additional access to health care that does not appear to replace traditional family practice based health care. While the SBHC appears to deliver better quality preventive health services for adolescents compared to traditional primary health care, improvements are needed across all primary health care settings.

Young people face significant threats to their health and wellbeing. Results from Youth2000, a nation-wide survey of New Zealand secondary school students, show that a significant number of students engage in behaviours that threaten their health such as unsafe sexual activity, suicide attempts, and substance use.¹

In New Zealand, *The Primary Health Care Strategy* emphasises that quality primary health care services should be comprehensive and involve health promotion, education, and counselling to help people adopt healthier lives.² Yet international research suggests few primary health care providers discuss or provide preventive health counselling and education to adolescents on important youth health issues³⁻⁶—despite research showing that (among adolescents) preventive counselling in primary care settings reduces health risk behaviours,^{7, 8} reduces teen pregnancy rates,⁹ improves contraceptive use,^{10,11} and reduces tobacco use.¹²

Access to health care has been defined by the Institute of Medicine, as ‘the timely use of personal health services to achieve the best possible health outcome.’¹³ A large body of research has shown that access to health care by adolescents is poor (for reviews see Brindis^{14,15}). Of major concern is the fact that among New Zealand secondary school students, about half have had problems accessing health care in the past year.¹

One of the main reasons students report that they do not access health care is lack of easily accessible health services: including no transport, lack of resources to pay for health care, and/or poor availability of health care. Students also go without health care when they have concerns about the quality of the care they receive, specifically concerns about privacy, confidentiality, and/or not feeling comfortable with the health care provider.^{1,16}

School based health services have been established recently in New Zealand to meet the health needs of young people, recognising that school-based services may offer more accessible and youth-orientated care. Research from overseas has consistently shown that school-based health care enhances access to primary health care, especially for mental health services.^{17,18}

Little is known about the quality of school-based health services and whether school-based health centres (SBHCs) offer more youth-appropriate health care; specifically health care that is private, confidential, and provides preventive screening and anticipatory counselling for the leading causes of adolescent mortality and morbidity.

In New Zealand, SBHCs have been formed in partnership between local primary health care providers and schools. *The Primary Health Care Strategy* emphasises that improvement in quality of health care requires good information. The current study was designed to provide data on the quality of health care students receive at a school with a SBHC using a youth-health-services questionnaire administered to students over the Internet.

The aims of the current study were to:

- Determine where students attending a school that has a SBHC usually access primary health care; and to
- Compare the quality of preventive health services that students who use the SBHC receive to those who go elsewhere for health care.

Methods

Questionnaire development—The questionnaire was adapted from the Young Adult Health Care Survey (YAHCS)¹⁹ which includes measures on adolescent preventive counselling and screening. The YAHCS is designed to assess the quality of health care received by adolescents and adherence to adolescent preventive services guidelines.²⁰

As some of the questions from the YAHCS were inappropriate for the New Zealand context (e.g. chewing tobacco), they were modified for use in New Zealand. Students from health-curriculum classes helped in revising and adapting the questionnaire through cognitive testing of questionnaire items.

Measures in the final questionnaire included:

- Communication and experience of health care
- Private and confidential visits.
- Preventive screening and counselling on substance use, injuries and violence.
- Preventive screening and counselling on sexual health and sexually transmitted infections (STIs).
- Preventive screening and counselling on health issues on weight, nutrition, and physical activity.
- Preventive screening and counselling on emotional wellbeing and relationship issues.

- Helpfulness of counselling provided on specific health issues such as the risks of smoking and alcohol, how and why to use contraception and condoms, and help with quitting use of illegal drugs.
- Overall rating of health care.

The final questionnaire included 132 items that were then incorporated in to a web-based questionnaire. The visual design of the web-based questionnaire included art work from school students to reflect their local school culture. Students also participated in the recording of audio files of the questionnaire. The final questionnaire can be accessed at <http://www.estream.co.nz/surveydemo> (and click the submit button).

Study population—A secondary school, with a recently established SBHC serving predominantly low-income, Pacific, Maori, and Asian students, agreed to participate in the current study. The SBHC was established in 2002 in partnership with a local Pacific health provider. School classes were conveniently selected from each school year based on availability of the computer classroom. Twenty classes were surveyed in October and November, 2003. Participating classes attended the school computer room where the study was conducted. Each student had their own computer to work from and students were seated to maximise privacy and confidentiality. The questions were displayed on the computer screen and at the same time read out over headphones. Answers were made by point-and-click with the mouse. The computer design allowed for branching questions whereby the participant's responses determine the next question. Upon completion of the survey, students were able to continue with school work on the computer. Of the 382 students present on the day of the survey, 343 completed the survey, 33 students declined to participate or quit without completing the questionnaire, and 6 files were corrupted—thus resulting in an overall student response rate of 90%.

Consent—Ethical approval of this study was obtained from the Auckland Health and Disability Ethics Committee. The principal, teachers, and kaumatua (Maori leaders) of the school were involved in the design and implementation of study. The Board of Trustees agreed with the study protocol. Parents were informed of the study through the school newsletter, and any parents who did not want their child to participate were able to withdraw their child from the study. At the beginning of each class, the study was explained and time was given for questions and answers. Students indicated their consent at the beginning of the questionnaire. Students who declined to participate were able to carry on with schoolwork on the computer during the survey.

Analysis—Estimated proportions and cumulative numbers of students accessing health care providers are presented with their standard errors. Bivariate analysis examined the relationship between accessing the SBHC and demographic characteristics of students using chi-square tests of independence. The Statistics New Zealand ethnicity prioritisation method was used to determine ethnicity groupings.²¹ Estimated proportions of respondents who received preventive and/or counselling on YAHCS topics are presented with their standard errors. Internal consistency reliability of derived YAHCS measures was assessed through Cronbach's alpha (Table 3). An overall percentage score is calculated from the mean of each measure's items, except for the private and confidential-care measure which was assessed through the proportion of respondents who received both private and confidential care. The average percentage/score for each YAHCS measure was calculated for students who *usually use* the school health centre for health care, students that *have used* the school health centre, and students who went *elsewhere* for health care. Multivariate linear regression was used to test for significant differences between YAHCS measures and these three groups, controlling for the age, sex, and ethnicity variables. All standard errors, chi-square tests, and multivariate regression estimates were adjusted for the clustering of students within classes using SAS procedures SURVEYFREQ, SURVEYMEANS, and SURVEYREG (release 9.1, 2005; SAS Institute Inc., Cary, NC, USA).

Table 1. YAHCS measures and percentage of students who have discussed specific health topics with a doctor or nurse in the last 12 months

| Questionnaire items and YAHCS measures (internal reliability) | n | % | SE |
|------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------|
| Communication and experience—6 items (0.76)* | | | |
| Reception staff at the health clinic or doctor's office helpful as you think they should be | 271 | 73.4% | 2.9% |
| Doctors or nurses listen carefully to you | 273 | 82.4% | 1.9% |
| Doctors or nurses explain things in a way that you can understand | 274 | 75.2% | 2.9% |
| Doctors or nurses show respect for what you have to say | 276 | 83.3% | 2.6% |
| Doctors or nurses spend enough time with you | 270 | 64.8% | 2.3% |
| Overall average percentage of positive experiences of health care | 276 | 65.1% | 1.4% |
| Private and confidential health care—2 items | | | |
| Spoke with doctor or nurse in private | 271 | 52.0% | 3.0% |
| Doctor or nurse explained confidentiality | 266 | 54.5% | 3.1% |
| Overall percentage of both private and confidential health care | 264 | 36.4% | 3.0% |
| Preventive screening and counselling on health risk behaviours (substance use, violence, and injuries) —8 items (.86) | | | |
| Smoking cigarettes | 276 | 40.6% | 3.0% |
| Alcohol use | 275 | 38.2% | 2.9% |
| Marijuana use | 276 | 35.1% | 2.1% |
| Street drug use(P, speed, ecstasy) | 274 | 30.3% | 2.2% |
| Sexual or physical abuse | 275 | 25.8% | 2.9% |
| Violence prevention | 276 | 18.5% | 2.6% |
| Riding in cars with a drunk driver | 276 | 16.7% | 2.3% |
| Using a helmet for skateboarding or bicycling | 275 | 14.2% | 2.8% |
| Overall average percentage of risk behaviours discussed | 276 | 27.5% | 1.9% |
| Preventive screening and counselling on sexual health and STIs—3 items (.66) | | | |
| Condom use | 271 | 31.7% | 2.8% |
| Sexually transmitted infections (STIs) | 274 | 27.7% | 2.7% |
| Birth control | 270 | 15.9% | 2.2% |
| Overall average percentage of sexual health behaviours discussed | 275 | 25.5% | 2.1% |
| Preventive screening and counselling on weight, nutrition and physical activity—3 items (.70) | | | |
| Physical activity or exercise | 276 | 47.1% | 3.0% |
| Healthy eating or diet | 276 | 39.5% | 2.9% |
| Your weight | 276 | 26.8% | 2.7% |

| Questionnaire items and YAHCS measures (internal reliability) | n | % | SE |
|-------------------------------------------------------------------------------------------------------|----------|----------|-----------|
| Overall average percentage of nutrition and activity behaviours discussed | 276 | 37.8% | 2.3% |
| Preventive screening and counselling on emotional health and relationship issues—6 items (.74) | | | |
| How's school going | 276 | 56.2% | 3.0% |
| How things are at home | 276 | 37.0% | 2.9% |
| Your emotions or moods | 276 | 32.6% | 2.8% |
| Your friends | 276 | 24.6% | 2.6% |
| Suicide | 275 | 10.9% | 1.9% |
| Being gay or straight | 275 | 7.6% | 1.6% |
| Overall average percentage of emotional health issues discussed | 276 | 26.5% | 1.6% |
| Helpfulness of counselling on specific health issues—5 items (N/A[†]) | | | |
| How to use condoms to prevent pregnancy and sexually transmitted infections | 78 | 89.7% | 4.5% |
| How and why to use birth control | 34 | 85.3% | 7.2% |
| Understanding the risks of cigarettes or smoking to health | 79 | 75.9% | 5.2% |
| Understanding alcohol use and its risk to health | 70 | 81.4% | 2.9% |
| Help on quitting street drugs | 21 | 81.0% | 9.1% |
| Overall average percentage of students who responded their discussions were helpful or very helpful | 142 | 81.9% | 3.8% |
| Overall rating of health care (range 0 to 10)** | 273 | 8.7 | 0.13 |

*Always or usually; ** 0=worst health care possible 10=best health care possible; [†] Too few respondents to measure internal reliability; YAHCS=Young Adult Health Care Survey; N/A=not applicable; SE=standard error.

Table 2. Demographic characteristics of students and place of health care (SBHC=school-based health centre)

| Characteristic | Total | | No health care in last 12 months | | Went elsewhere for health care in the last 12 months | | Have used the SBHC for health care in the last 12 months | | Use SBHC for usual health care in the last 12 months | |
|--------------------|-------|------|----------------------------------|------|------------------------------------------------------|------|----------------------------------------------------------|------|------------------------------------------------------|------|
| | n | % | n | % | n | % | n | % | n | % |
| | 343 | 100 | 62 | 18.4 | 155 | 46.0 | 95 | 28.2 | 25 | 7.4 |
| Gender | | | | | | | | | | |
| Male | 156 | 45.9 | 26 | 16.9 | 84 | 54.5 | 37 | 24.0 | 7 | 4.5 |
| Female | 184 | 54.1 | 36 | 19.8 | 71 | 39.0 | 57 | 31.3 | 18 | 9.9 |
| | | | | | | | | | p=0.003 | |
| Age (years) | | | | | | | | | | |
| 13 | 45 | 13.2 | 10 | 22.2 | 22 | 48.9 | 12 | 26.7 | 1 | 2.2 |
| 14 | 96 | 28.1 | 16 | 17.2 | 48 | 51.6 | 25 | 26.9 | 4 | 4.3 |
| 15 | 78 | 22.8 | 13 | 16.7 | 37 | 47.4 | 20 | 25.6 | 8 | 10.3 |
| 16 | 61 | 17.8 | 11 | 18.3 | 28 | 46.7 | 18 | 30.0 | 3 | 5.0 |
| 17 | 62 | 18.1 | 12 | 19.7 | 20 | 32.8 | 20 | 32.8 | 9 | 14.8 |
| | | | | | | | | | p=0.3 | |
| Ethnicity | | | | | | | | | | |
| Asian | 45 | 13.3 | 6 | 14.0 | 26 | 60.5 | 8 | 18.6 | 3 | 7.0 |
| Maori | 40 | 11.8 | 6 | 15.0 | 18 | 45.0 | 12 | 30.0 | 4 | 10.0 |
| European/ Other | 23 | 6.8 | 7 | 30.4 | 10 | 43.5 | 4 | 17.4 | 2 | 8.7 |
| Pacific | 231 | 68.1 | 42 | 18.3 | 100 | 43.7 | 71 | 31.0 | 16 | 7.0 |
| | | | | | | | | | p=0.5 | |

Table 3. Place of health care utilisation

| Variable | Usual place of health care | | | Health service/provider accessed by students in the past 12 months | | |
|------------------------------------------------------------------------|----------------------------|------|-----|--------------------------------------------------------------------|------|-----|
| | n | % | SE | n | % | SE |
| Family doctor's office | 266 | 79.4 | 3.0 | 276 | 82.1 | 2.5 |
| School health centre | 31 | 9.3 | 2.2 | 132 | 39.3 | 3.0 |
| Hospital clinic | 16 | 4.8 | 1.4 | 32 | 9.5 | 1.8 |
| After-hours accident and emergency | 6 | 1.8 | 1.0 | 17 | 5.1 | 1.1 |
| Hospital emergency department | 4 | 1.2 | 0.7 | 27 | 8.0 | 1.7 |
| Nowhere | 5 | 1.5 | 0.6 | 14 | 4.2 | 1.0 |
| No one particular place | 5 | 1.5 | 0.6 | – | – | – |
| Family planning | 1 | 0.3 | 0.3 | 4 | 1.2 | 0.6 |
| Other health provider (e.g. alternative therapist, traditional healer) | 1 | 0.3 | 0.3 | 19 | 5.7 | 1.3 |
| Total | 335 | | | 521 | | |

SE=standard error.

Table 4. Mean score of YAHCS measures by place of health care

| YAHCS Measure | Went elsewhere for health care in the last 12 months | | | Have used the SBHC for health care in the last 12 months | | | Use SBHC for usual health care in the last 12 months | | | |
|-------------------------------------------------------------------------------------------|------------------------------------------------------|---------|------|----------------------------------------------------------|---------|------|------------------------------------------------------|---------|------|---------|
| | n | Average | SE | n | Average | SE | n | Average | SE | p value |
| Communication and experience of health care | 155 | 63.0% | 1.8% | 95 | 68.4% | 2.1% | 25 | 66.7% | 5.8% | ns |
| Both private and confidential health care | 147 | 23.8% | 4.6% | 91 | 47.3% | 4.7% | 25 | 72.0% | 8.8% | <0.0001 |
| Preventive screening and counselling on risk behaviours (substance use and injury) | 155 | 27.4% | 2.8% | 94 | 26.7% | 4.8% | 25 | 31.0% | 8.2% | ns |
| Preventive screening and counselling on sexual health and sexually transmitted infections | 155 | 21.9% | 3.4% | 93 | 26.5% | 4.8% | 25 | 45.3% | 8.5% | 0.03 |
| Preventive screening and counselling on weight, nutrition and physical activity | 155 | 31.4% | 4.2% | 94 | 45.4% | 4.4% | 25 | 49.3% | 9.4% | 0.03 |
| Preventive screening and counselling on emotional health and relationship issues | 155 | 25.5% | 2.2% | 94 | 24.9% | 2.6% | 25 | 36.0% | 7.1% | ns |
| Helpfulness of counselling on specific health issues | 63 | 74.4% | 6.9% | 37 | 89.6% | 3.2% | 15 | 85.0% | 6.6% | ns |
| Overall rating of health care (range 0 to 10) | 154 | 8.7 | 0.2 | 94 | 8.6 | 0.1 | 23 | 9.3 | 0.6 | ns |

YAHCS=Young Adult Health Care Survey; SBHC=school-based health centre; ns=not significant; SE=standard error.

Results

Demographics—Table 2 shows (in the previous 12 months) the demographic characteristics of the students who completed the health care survey and the demographic characteristics of students by place of health care. The demographic characteristics of surveyed students were similar to the demographic composition of the school. Most of the students were under 16 (64%) years of age, and most of the students were of Pacific ethnicity (68%).

To examine the demographic characteristics of students who use the SBHC, respondents were grouped into four groups: those that hadn't accessed health care in the previous 12 months; students who had used the SBHC in the previous 12 months, but not regularly; students who used the SBHC for their usual health care in the previous 12 months; and students who had gone elsewhere for health care in the previous 12 months.

Female students were more likely to use the SBHC than male students ($p=0.003$). There were no significant differences by age or ethnicity between these groups of students.

Health care utilisation—Most students (79%) used their family doctor as their usual place of health care, and most students (82%) had been to their family doctor in the previous 12 months (Table 3). The SBHC was the next most common place students accessed health care. Almost 40% of students had attended the SBHC in the previous 12 months, and 9% of students used the SBHC for their usual place of health care. After-hours accident & emergency and hospital emergency departments were infrequently used for health care, with fewer than 10% of students having attended these services in the previous 12 months.

Quality of health care—Only those students (82%) who had received health care in the previous 12 months were asked questions about health care quality. Table 1 shows the eight YAHCS measures and questionnaire items that assessed the quality of health care students received in the last 12 months.

The first measure assessed quality of communication and experience of health care. Most students (82%) said that their doctor or nurse always or usually listened carefully to them, and most students (83%) said that their doctor or nurse showed respect for what they had to say. Fewer students (65%) said that a doctor or nurse always or usually spent enough time with them.

The second measure asked about private and confidential health care. Fifty-two percent of students had spoken with a doctor or nurse in private, and 55% of students had had confidentiality explained to them by a doctor or nurse. Overall, the number of students who had received both private and confidential care was low. Only 36% of students reported that they had spoken with a doctor or nurse in private and that a doctor or nurse had explained confidentiality to them.

Preventive health screening and counselling was assessed by four measures: health-risk behaviours; sexual health; weight, nutrition, and physical activity; and emotional health and relationship issues. Overall, the number of students who had discussed any of these health issues with their health provider was low. Forty percent of students had discussed smoking cigarettes with a doctor or nurse in the previous 12 months,

and 38% had discussed alcohol with their doctor or nurse. Only one in six students reported that a doctor or nurse had discussed riding in cars with a drunk driver.

Fewer than 40% of students have discussed healthy eating and exercise with their health care provider, and only 25% of students had discussions about condom use, sexually transmitted infections, or birth control. About one-quarter of students had discussions about emotional health and relationship issues.

When doctors counselled students on these health issues, most students reported that their discussions were helpful. Students were only asked about the helpfulness of these conversations if they had engaged in the health-risk behaviour and had discussed that behaviour with their doctor or nurse. Among students who discussed with their doctor or nurse how to use condoms to prevent pregnancy and sexually transmitted infections, 90% reported these discussions were helpful or very helpful. Over three-quarters of students who had conversations with their doctor or nurse about substance-use, found these conversations helpful or very helpful.

Health care quality by place of health care—Table 4 compares the eight YAHCS measures on ‘quality of health care received among students who use the SBHC for their usual health care,’ ‘students who have used the SBHC in the past 12 months,’ and ‘students who have gone elsewhere for health care in the past 12 months.’

Students who use the SBHC were more likely to have received private and confidential health care than students who go elsewhere for health care. Table 5 shows that about 70% of students who use the SBHC for their usual care, and 47% who have used the SBHC in the past 12 months, had received both private and confidential health care—compared to 25% of students who go elsewhere for health care.

Students who use the SBHC were also more likely to have had preventive health screening about nutrition, physical activity, sexual health, and sexually transmitted infections than students who go elsewhere for health care. Almost half the students who used the SBHC had discussed sexual health and sexually transmitted infections with their doctor or nurse compared to only 20% of students who go elsewhere for health care.

There were no statistically significant differences between students who accessed health care from different settings on preventive screening for emotional health issues or risk behaviours. There were also no significant differences by source of health care in how positively students rated their experience when receiving health care or in how helpful they found the counselling on specific health topics.

Discussion

The purpose of the current study was to describe where students access primary health care and to assess the quality of health care those students receive comparing students who use the SBHC to those who go elsewhere for health care.

Most students (79%) access health care from their family doctor, and the majority (82%) have seen their family doctor in the previous 12 months. These results are similar to findings from a national survey of youth where 80% of students reported that they had seen a family doctor in the past 12 months.¹ These findings suggest that access to school-based health care doesn’t displace health care from traditional family

doctor settings as the percentage of students who have seen a family doctor in the past 12 months is similar to the national average.

In the current study, 40% of students used the SBHC in the past 12 months, and almost 10% of students use the SBHC for their usual place of health care. These findings are similar to other studies of students with access to SBHCs. Kisker and Brown found that, among students from 19 schools with SBHCs, 44% had used the SBHC in the past year and 15% of students use the SBHC for their usual place of health care.²²

In the current study, rates of health care utilisation at the SBHC are significant, and appear to be in addition to students accessing their family doctor for health care. The additional health care access through the SBHC may reflect previously unmet health needs of students at the school.

Significantly, 18.6% of students reported that they received no health care in the previous 12 months—this highlights the need for SBHCs to liaise with schools about students who may not be presenting to health services but who may have significant health needs (and who often come to attention of the school through truancy or behavioural problems). For example, it is estimated that for students who do not complete high school, over 20% prematurely end their education because of early-onset psychiatric disorders.²³

Overall, the percentage of students who received screening and preventive counselling from health care providers was low, regardless of the setting of care. Fewer than 50% of students had received any health counselling on any one health topic, and (on average) only 25% of students had received counselling on substance-use, violence, injuries, emotional wellbeing, or sexual health—which is alarming as these behaviours are the major contributors to adolescent morbidity and mortality in New Zealand.¹

When students did receive counselling on specific health issues, the majority of students felt that this was helpful. Previous research has shown that young people trust doctors as credible sources of health information and that they want to talk to their doctors about sensitive health issues.²⁴ The low rates of preventive health counselling found in the current study may reflect existing time constraints around the delivery of primary health care in family-practice settings.

In traditional primary-care settings, average consultation times for adolescents are 10 minutes or less, and are shorter than average consultation times for adults.²⁵ However, it has been estimated that the time required for comprehensive adolescent health care, including preventive health counselling, is about 20 to 25 minutes for low-risk adolescents and may be substantially longer if multiple problems are identified.²⁶

In this study, students who used the SBHC were more likely to receive counselling and preventive screening on sexual health, sexually transmitted infections, nutrition, physical activity, and weight issues than students who go elsewhere for health care. Kaplan et al showed that students enrolled in a large managed care organisation in Colorado with access to a SBHC were more likely to have had a comprehensive health supervision visit, and to have received preventive health screening and anticipatory guidance, than students without access to a SBHC.¹⁸

Blum et al compared the quality of adolescent health screening among five different practice settings and found that teen-orientated community clinics screened for substantially more health-risk behaviours than private practice settings.⁴ Furthermore, they suggest that the variation among practice settings may be due to provider characteristics such as variation in training, prior experience, and attitudes towards youth. Indeed, evidence suggests that (in many traditional health care settings) providers are uncomfortable providing health care to adolescents and feel inadequately trained in youth health issues.^{27,28}

In comparison with traditional primary care, youth-orientated health care settings (such as SBHCs) often attract providers interested and/or experienced in youth health. And these youth health providers are more likely to have had received training in youth health. Sancu et al has shown that training in adolescent health issues significantly increases the likelihood that providers screen for adolescent health issues and feel more comfortable providing anticipatory guidance.²⁹ In New Zealand, there are very few opportunities for youth-health training and most health professionals who work with young people have not had training in youth health either at undergraduate or postgraduate levels.

In the current study, students who used the SBHC (compared to students who go elsewhere for health care) were more likely to report that they had spoken with a doctor or nurse in private, and that a doctor or nurse had explained confidentiality to them. It may be that students use the SBHC for health issues that are private and confidential such as STIs and contraception, rather than using traditional primary care settings.³⁰

School-based health care also has the advantage of seeing students without their parents. This would enable SBHCs to more easily provide confidential and private health care. Nevertheless, the percentage of students receiving confidential health care from health settings outside the school was less than one-quarter.

Confidential health care is an important component of high-quality health care for adolescents.³¹⁻³³ Indeed, there is evidence that lack of private and confidential health care is a significant barrier for young people accessing health care, especially for sensitive or potentially embarrassing behaviours.³⁴⁻³⁶ Ford et al showed that when adolescents are assured of confidentiality they are more likely to disclose information, be honest in their discussions with their doctor, and are more likely to return for future visits.¹⁶

One of the strengths of the current study is that it is situated in a school with a high proportion of students from low socioeconomic backgrounds and a high proportion of students identifying with Pacific ethnicities. Pacific peoples (i.e. from Pacific islands such as Samoa and Tonga) are known to have more unmet health needs and more barriers to health care access.³⁷ This study provides important information to address health disparities and improve health care access for Pacific and low-income youth populations. However, the findings from this study are limited by several factors.

Firstly, the cross-sectional nature of the study design limits any conclusions about the causality of the findings. For example, it is possible that students with greater health need self-select to use the SBHC and are therefore more likely to receive anticipatory health counselling.

Secondly, the study was based in only one school and the numbers of students using the SBHC for usual health care was small; there may have been additional differences between health care providers, but this study did not have the statistical power to detect them.

Lastly, the study is also limited by the nature of the self-reported YAHCS questionnaire which may not capture all the preventive health counselling that takes place in primary care settings. At present, adolescent self-report has been shown to be the most valid source of data about the provision of preventive counselling and screening services in primary care.²⁰

Conclusion

This study highlights that school-based health care can provide accessible and appropriate health care that may be meeting previously un-met health need among adolescents. It appears that school-based health care provides additional access to health care that does not replace traditional family practice based health care. While school-based health care in New Zealand is in its infancy, it is gaining significant attention and the Ministry of Health has provided guidelines for schools and health providers interested in setting up SBHCs.³⁸

Training of health providers, and especially primary care physicians interested in working in the school environment, is critical. There are unique qualities of the school environment and working in partnerships with schools is vital to the success of school-based services.³⁹

This study also highlights that improvements are needed in the delivery of high-quality preventive health services for adolescents in primary health care settings in New Zealand. There is a need for both structural changes among primary care settings, with the ability for services to provide longer consultation times and training for health care providers who work with young people on youth health issues, particularly around consent and confidentiality.

Traditionally, primary health care has focused on acute medical care with short consultations and episodic and problem focused care.⁴⁰ The *Primary Health Care Strategy* recognises that for health services to provide preventive health care a paradigm shift towards health promotion and disease prevention is required.² With recent changes in the delivery of primary care in New Zealand and population based funding, clinicians have the opportunity to provide ongoing comprehensive, preventive focused health care that recognises the influence of social behaviours on the health and wellbeing of young people.

The potential impact of better preventive health counselling by primary care providers on the health and wellbeing of adolescents is considerable²⁴ and has been shown to be cost-effective.⁴¹

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