

Improving Access to Preventative Health Services at a Small College

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ABSTRACT

Student health offices are charged with the responsibility of improving primary care activities around the priority health objectives set forth in the Healthy Campus 2020 guidelines, established by the American College Health Association in 2012. This quality improvement project aimed to increase student's access to these activities by implementing screening and prevention education in every health care encounter and through improving the overall utilization of a student health office.

Keywords: college health, health behavior change, health education, Healthy Campus 2020, student health services/utilization

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The American College Health Association has developed Healthy Campus 2020 (HC 2020) objectives to guide college health offices in their efforts to improve the overall health and well-being of the students they serve.¹ These objectives address health education, screening, and primary prevention in priority areas, which include health issues impacting academic performance, substance abuse prevention, injury and violence prevention, access to mental health services, infectious disease prevention, and reproductive health.¹ Traditionally, students are exposed to these screening and education interventions in “annual exam” visits to their student health office. Changing the model to include primary care and prevention in every visit type, including “walk-in” acute care visits and promoting preventative health service access through increased utilization of a student health office, increases the amount of exposure that students have to the HC 2020 health education objectives.

LOCAL PROBLEM

Promoting activities and developing policies and practices that support the student's academic performance and retention is a top priority for this and most colleges. An advisory team for this quality improvement project (QIP) was formed to guide the student health office on how best to support this goal. The team consisted of academic leadership, students, faculty, and the student life team. They identified the

need for the student health office to improve screening and education in the office and to increase the student utilization of health services. Before implementing this QIP, preventative care, screening, and health education only occurred in annual physical exam appointments. So, although 52.4% of enrolled undergraduate students in 2013–2014 utilized the student health office at least once for some type of visit, only 4% of the enrolled undergraduate students in that academic year had annual “well adult” visits in which preventative health screening and education were conducted.

STUDY QUESTION AND INTENDED IMPROVEMENT

The primary aim was to increase student utilization of the health office by all undergraduate students by 25%, which would result in an increase from 52.4% to 65.5% of the students seen in an academic year. The process aim was to integrate primary preventative care into every visit type so that every student who utilized the health office received education and screening around the HC 2020 priorities.

METHODS

Oversight and approval for the QIP was obtained through the University of Colorado–Denver College of Nursing Doctor of Nursing Practice Capstone Bridge Committee to ensure this project continued to be consistent with quality improvement principles. We followed quality improvement process guidelines

from the Agency for Healthcare Research and Quality,² and adhered to the adapted Standards for Quality Improvement Reporting Excellence guidelines.³ The quality improvement committee and the academic leadership team for this project lent their expertise and insight into the “Plan, Do, Study, Act” cycles⁴ that were conducted for this QIP.

The primary aim of this project was to increase the number of students who use the student health office. Ethically, it was important to make sure that there were no financial consequences for students. Co-pays and deductibles for services are not collected through the student health office. The 1996 Health Information Portability and Accountability Act⁵ guidelines were strictly followed. Utilization data were aggregated by class and not by student. Screening tools that assessed for health behaviors and issues were incorporated into the intake paperwork and the electronic health record. Individual results and subsequent health behavior interventions remained in the student’s confidential medical chart.

SAMPLE AND SETTING

The setting for the QIP was a 4-year college in the western United States. The population consisted of the 2014–2015 enrollment of undergraduate students. There were 348 undergraduate students enrolled in the fall of 2014 and 354 in the spring of 2015. Students ranged from 17 to 31 years of age with 90% of them < 23 years old. Approximately 86% of the students lived on campus and 18% of the students were from outside the US. The health office was staffed with an advanced practice nurse and a physician, as well as a front office assistant.

PROCEDURE FOR DATA COLLECTION

The health office utilization data were collected each month through the appointment tracker in the electronic medical record. Data were reported by total number of visits by all undergraduate students (total utilization, as well as the number of students seen at least once—unduplicated student utilization). The specific measure for unduplicated undergraduate visits was counted over the course of the academic year. Health office utilization was tracked in run and control charts, which reflected the weekly total number of students seen, divided by the total number

of available appointments. At the end of the QIP, the total number of visits, total number of unique, unduplicated freshmen, and undergraduate students seen at least once were reported.

INTERVENTIONS

Education

To promote a culture of seeking health care consultations and interventions for wellness, students were exposed to health education programming which emphasized these services. This occurred through orientation sessions, school newspaper articles, Facebook announcements, and poster campaigns. Health promotion visits were also encouraged in individual encounters with students attending auricular acupuncture clinics and flu clinics.

All students who sought care in the health office received primary prevention messaging and secondary screening with follow-up on health issues related to the HC 2020 goals at each visit. These included referrals for mental health issues, screening for health problems that impact academic performance, prevention of injury and violence, evaluation for reproductive health issues, substance use and tobacco, and immunization needs.

Scheduling

The health office also offered same day walk-in appointments at any time. Previously, there were specific “walk-in” times only from 12:00 noon to 1:00 PM. The clinic was opened around the students’ academic class schedule, offering periodic weekend, early morning, and evening clinic times and improving ways that students could make appointments. Appointment scheduling was traditionally done by phone or in person. We added email, text, and self-scheduling web portal options for the QIP. The no-show rate remained low (< 5%) because of these changes in scheduling and also the availability of the health office to accommodate same-day or next-day appointments for all reasons, including Pap smears and physicals. Periodically, the clinic would “back up” with walk-in appointments and the clinician would “triage” the waiting room and alert students on wait times, and then offer appointments later in the day or the next day if they were worried about being late for a class or otherwise could not

wait. Our Plan, Do, Study, Act cycles for project interventions and their matching outcomes are displayed in the [Table](#).

Data Analysis Plan

The data for the primary aim of improving the utilization were stored in the appointment tracker in the electronic medical record. Each student seen was cross-checked with a student list to determine the class year and this paper list was marked to track first visits. Pre- and postintervention utilization data were analyzed using Fisher's exact test for the unduplicated undergraduate and freshmen student utilization rates (smaller sample sizes). The χ^2 test was used for the total utilization rate, as the sample size was sufficiently large. Based on an expected change from the baseline level of 52.4% of *unduplicated students* seen to a final level of at least 65.5%, our power analysis required at least a total sample of 464 students to detect changes with power = .80 and $\alpha = .05$. Our sample size was $N = 708$. To detect a 25% change in the *total utilization rate* in the clinic from a baseline of 41%–51%, we would need a sample size of $N = 190$ appointments to determine this with power = .80 and $\alpha = .05$. Our sample size for total utilization was $> 1,500$ available appointments.

RESULTS/OUTCOMES

The number of *unduplicated* undergraduates seen in the health office in the first 24 weeks of school improved from 46.6% to 51.1% [odds ratio = 0.83, $z = -1.20$, $P = .26$, 95% confidence interval 0.89–1.61]. The percentage of unduplicated freshmen seen remained basically the same, at 61.2% and 61.7% (odds ratio = 0.98, $z = -0.078$, $P = 1.0$, 95% confidence interval 0.55–1.72). We used the Yates χ^2 test to determine whether there was a significant change in the number of appointments filled by students. The number of undergraduate appointments that occurred in the health office in the first 24 weeks of school improved from 40.1% (392 of 957) to 56.4% (490 of 869) [$\chi^2(1, N = 1,826) = 42.78$, $z = -6.588$, $P < .001$, odds ratio = 0.54].

The interventions that seemed to improve the overall utilization rate included the same-day walk-in policy and the ability of students to schedule appointments in multiple ways.

DISCUSSION

The health office developed a reputation for performing primary prevention and wellness visits in addition to providing acute care interventions. As a result of this QIP, structural changes were made in the health office that will continue. The health office improved service availability through enhanced clinic hours and same-day walk-in availability and also improved how students could schedule appointments. Students were invited to email or text message for appointments and this proved to be better than having them leave phone messages. They were also invited to use a web-based self-scheduling portal, but this was not as popular. The no-show rate was not measured for the QIP, but it was $< 5\%$, highlighting the utility of same-day walk-in appointments for any reason. The number of available appointments decreased between the pre- and post-intervention periods, but more students were seen in this time frame, which underlines the importance of timing when the clinic is open. In addition, individual students came in to the health office more often. The student health office did not change any prescription refill protocols, but they were doing more screening and detecting more health behavior issues that were seen in follow-up visits. We improved the exposure that students had to primary prevention programming (100%) without dramatically increasing the new student utilization rate.

Limitations

A significant limitation in the QIP was how to measure the impact of increasing utilization and access to preventative health activities in a student health office. The basic tenet of primary care is to increase a patient's exposure to preventative health messaging. Among college students, this is done with the intent of improving overall health while reducing injury and disease and supporting their academic endeavors. School health offices can utilize the American College Health Association National College Health Assessment survey,⁶ which is aligned with the HC 2020 objectives¹ to more accurately measure the impact their quality improvements. In addition, students could have been surveyed on their responses to the clinic changes, which would have provided important feedback on the process aim.

Table. PDSA Cycles, Interventions, and Outcomes by Aim

Primary Aim: Increase Utilization Rate of Health Office			
Goal	Timeline	Interventions	Outcomes
Adapt clinic hours to improve student clinic use.	September 2014 to January 2015	<ol style="list-style-type: none"> 1. Offer clinic hours that wrap around class schedules, specifically trial evening and weekend hours. 2. Modify clinic hours to match students' academic schedule with one Sunday, early morning and evening times, and lunch-hour options. 3. Staff the health office with a clinician 20 hours/week in the fall of 2014. 	<ul style="list-style-type: none"> • 56.9% of available appointments were utilized weekly. • 87.5% of the available appointments were utilized at the one Sunday clinic we were able to have during this QIP, but staffing was difficult for this. • 82.9% of the available appointments were utilized during Wednesday evening clinics. • 37.5% of the available appointments were utilized during Friday morning clinics; this was changed to Monday morning clinics on October 27, 2014 with utilization at 63.3% for the Monday clinics. • Data on utilization from September to December 2014 were used to negotiate for more clinician hours; 8 additional provider hours were added in January 2015.
Diversify methods to schedule appointments and provide same-day walk-in appointments.	August 2014 to January 2015	<ol style="list-style-type: none"> 1. Institute a policy for taking walk-ins for any reason (not just sick visits). 2. Offer email appointment requests in addition to the standard walk-in or phone call for scheduling. 3. Examine PDSAs for student portal appointment scheduling beginning in November 2014. 	<ul style="list-style-type: none"> • Decrease in the no-show rate to < 5%, while increasing total utilization of 40% of appointments in 2013-2014 to 56.9% of available appointments being utilized in 2014-2015. • Qualitative feedback from students who voiced their appreciation for emailed requests, especially when the office was closed. • Few students used the scheduling portal to schedule an appointment.
Increase awareness of the student health office hours and services.	August 2014 to April 2015	<ol style="list-style-type: none"> 1. Market health office hours in the university café, dorms, on the student health office website, and in the weekly school newsletter. 2. Enact "open office door" policy to indicate that the clinic is open. 3. Publication of an article in the school newspaper about the health office and services offered (including wellness exams), December 2014. 	<ul style="list-style-type: none"> • Increased awareness of the student health office services was not directly measured for this QIP. Anecdotal evidence from academic leadership and students showed that the shift to preventative care at every visit was both important and appreciated.

continued

Table. (continued)

Primary Aim: Increase Utilization Rate of Health Office			
Goal	Timeline	Interventions	Outcomes
Increase awareness of the importance of preventative wellness visits through advertisements and outreach.	August 2014 to April 2015	<ol style="list-style-type: none"> 1. Provide health education sessions in the first month of school, and encourage students—especially freshman—to visit the student health office for “wellness exams.” 2. Implement an office policy to schedule wellness exams for students who presented for over-the-counter medical supplies, flu vaccines, or biweekly evening auricular acupuncture clinic. 	<ul style="list-style-type: none"> • 69% of the freshmen visited the health office and all received a wellness exam in the first 14 weeks of school. • The number of unduplicated undergraduate students seen in the health office improved from 46.6% to 51.1%.
Process Aim: Integrate Primary Preventative Care Into Every Visit Type			
Goal	Timeline	Interventions	Outcomes
Improve health education sessions for freshmen to align with the HC 2020 ¹ student health priorities.	August 2014	<ol style="list-style-type: none"> 1. Offer targeted health education on pertinent topics including tobacco, caffeine, alcohol and substance use, stress, sleep, healthy lifestyle, and nutrition. 2. Conduct sessions with the student life and security team (who conducted education on campus safety, violence prevention, and mental health issues). 	<ul style="list-style-type: none"> • 3 health education sessions occurred in the first month of school with the freshmen class. • Outcomes were not measured for this QIP.
Implement primary preventative visits in the student health office to address HC 2020 student objectives	March 2014 to December 2014	<ol style="list-style-type: none"> 1. Implement screening and health communication on health impediments to academic performance. Health education on colds and flu prevention incorporated into an intake question about flu vaccines. 2. Implement additional screening questions on injury, violence, and intimate partner violence prevention (safety); alcohol, drug, and tobacco use; nutrition, exercise, and body mass index; reproductive health, contraception, and sexually transmitted infection risks; and immunization status. 	<ul style="list-style-type: none"> • 100% of visits had screening questions included on intake forms; 100% of students completed screening. • 100% of screening responses were addressed by health office clinicians.

HC 2020 = Healthy Campus 2020; PDSA = Plan, Do, Study, Act; QIP = quality improvement project.

Every student health office is different and provides services to a unique demographic of students. This QIP occurred on a small campus over a short period of time; it serves as an example for college health offices on campuses with < 3,000 students, but likely does not have generalizable external validity, particularly at larger schools.

CONCLUSIONS

Although there were only moderate increases in the number of new, unique students seen in this QIP, students benefitted from enhanced primary preventative health screening and comprehensive health behavior assessments in every health office visit. Early interventions for potential health issues were initiated and a culture of seeking health and wellness services through the student health office was established.

Measuring the amount of “touch” through tracking overall utilization is an effective way to evaluate the impact that student health offices have on the student population. Utilization was improved through enhancing clinic hours (evenings) and having “walk-in” hours at all times. Utilization was also positively impacted by campus outreach on the importance of preventative health service visits to the student health office.

Improving health screening for all visit types and the ability for students to access health services through clinic timing and availability for same-day

appointments is an important way to improve the health of college students and is likely translatable to most student health service providers. **JNP**

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