

RESEARCH

A Continuous Quality Improvement Program to Focus a College of Pharmacy on Programmatic Advancement

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Objective. To enhance the achievement of a college of pharmacy's goals for education, research, and service missions by implementing an excellence program based on the Studer Group model for continuous quality improvement.

Methods. The Studer model was combined with university strategic planning for a comprehensive quality-improvement program that was implemented over 5 years. The program included identifying and measuring key performance indicators, establishing specific "pillar" goals, aligning behaviors with goals and values, and training leaders.

Results. Assessment of key performance indicators over 5 years demonstrated progress toward achieving college goals for student and faculty satisfaction, research funding, numbers of students seeking formal postgraduate training, and private giving.

Conclusions. Implementation of a continuous quality-improvement program based on the Studer program enabled the college to focus on and meet its yearly and strategic goals for all components of its mission.

Keywords: quality improvement, assessment, goals, leadership

INTRODUCTION

Evaluating, improving, and then maintaining high-quality performance over time are among the greatest challenges faced by academic administrators. Organizations use many different methods to attempt to improve performance. While organizations typically have a written mission, vision, and goals, as well as a strategic plan, academic institutions do not consistently use behavioral approaches, performance measurements, and individual accountability to promote achievement of their organizational mission and goals.

Continuous quality improvement should be a formal organized approach to achieve organizational goals with a focus on customers, objective data, and processes. Although quality can be defined in many ways, it ultimately requires meeting or exceeding the expectations of customers. The cycle of goal setting, process change,

measurement, and assessment can be repeated to result in improvement through incremental change.

The South Carolina College of Pharmacy (SCCP) along with the Colleges of Nursing, Dental Medicine, Health Professions, and Graduate Studies at the Medical University of South Carolina (MUSC) implemented a continuous quality-improvement program based on the Studer Group program used by many health systems but infrequently applied to academic institutions. The program refers to "hardwiring" excellence within an organization so that it is not dependent on individuals and instead relies on a leadership strategy that uses aligned goals, behavior, and strategy to achieve clinical, operational, and financial outcomes through application of best practices in leadership.¹ Designed for hospitals and health-care organizations (see www.studergroup.com), the Studer program is based on 9 principles: making a commitment to excellence, measuring important things, building a service culture, developing leaders, focusing on employee and customer satisfaction, building accountability, aligning behaviors with goals and values, communicating to all, and recognizing and rewarding accomplishments and positive behaviors.¹ The 9 principles are not sequential in

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implementation, but their connectedness makes them work effectively.

For a college or school of pharmacy, the primary “customers” are the students, along with external constituencies, such as alumni and contractors of clinical services. Applying this program to academic units requires transforming the methods that were designed for health systems to the academic environment. The SCCP was created in 2004 from a previously independent college and school of pharmacy. It is jointly administered under 1 accreditation by 2 universities, the University of South Carolina and the Medical University of South Carolina (MUSC), with main campuses in Columbia and Charleston and a satellite campus at the Greenville Hospital System in Greenville. The college has 78 full-time faculty members, 760 students in the doctor of pharmacy (PharmD) program, 40 graduate students, and an active research program and residency programs.

The objective of the continuous quality-improvement program, known as SCCP Excellence, is to focus behavior and effort within the college toward specific goals to achieve organizational objectives. This paper describes the program, including the Studer approach, the methods by which it was integrated into the college’s quality improvement and strategic plans, and reports data from key indicators of quality.

METHODS

To create an effective quality-improvement program requires implementation of multiple components related to visioning, goal-setting, planning, behavior, performance measurement, and culture change (Figure 1). Each of these components was put in place at the college between early 2006 and 2009. In 2006, the college created formal vision, mission, and core values statements as detailed on its Web site (www.sccp.sc.edu). The college identified the ambition to achieve “top 10 quality,” as defined by key performance measures comparable to the best colleges and schools of pharmacy in the United States. The college also worked within the strategic-planning processes used by the MUSC called “Blueprint for Excellence,” which required the identification of short and long-term goals. The Studer program components were initiated in 2008 with leadership training programs, followed soon afterward by the other components described below. To implement the continuous quality-improvement process to achieve the goals, the college focused on the 9 principles stated above, particularly the behavioral aspects, measuring what is important, developing a faculty/staff recognition system, training leadership to reduce variance and improve communication, and building the service culture.



Source of program components: College = blue, University = red, Studer program = green.

¹Strategic planning (5-10 year goals).

²Yearly goals.

³includes 6 top indicators and 27 additional performance indicators.

Figure 1. Components of the quality improvement model.

Pillar Goals

One component of the Studer program implemented in 2008 was development of organizational goals that were revised each year in 5 areas or “pillars.”¹ These areas are: (1) people - create an environment that is conducive to high morale and productivity, reinforcing that the SCCP is the right place to be; (2) service - provide high quality services to students, alumni, patients, families, each other, and the community with compassion, respect, dignity, and pride; (3) quality - achieve the highest standards of excellence in education, research, and clinical and community service; (4) growth - create new and expanding opportunities, emphasizing collaborative partnerships, internally and externally, that benefit research and educational and clinical enterprises; and (5) financial - maintain fiscally sound practices that will sustain the ability to operate and grow in all areas of our strategic mission.

These 5 pillars provided the foundation for setting yearly organizational (ie, pillar) goals. These 1-year goals were aligned with specific performance metrics that were used to assess organizational progress as well as for individual accountability. The pillar goals for the college for the 2011-2012 academic year (Appendix 1) were developed with participation by faculty and staff members at various retreats and faculty meetings. They were posted throughout the college in highly visible areas as a reminder about college priorities and were revised each year, depending on goals achieved or needing adjustment. Performance results for pillar goals were presented to faculty and staff members at the end of each academic year, given to university administrators, and also presented to college advisory groups and stakeholders. An important aspect of yearly pillar goals was to build upon the goals of the strategic plan. One aspect of the continuous quality-improvement program was to

identify and measure college progress. In 2008, a college taskforce was formed to identify key performance indicators, which were then approved by faculty members. Six indicators were determined by faculty members to be the most important measures of quality: student satisfaction, faculty member satisfaction, National Institutes of Health (NIH) funding ranking, the number of peer-reviewed research publications per full-time faculty member, the number of graduates who pursued a further degree or formal training programs, and the amount of private giving. These 6 key indicators were incorporated into the annual pillar goals. Twenty-seven additional performance measures were identified within 7 critical areas in the college: students, faculty members, research, graduate/residency programs, development, continuing education, and the experiential program. The measures were typically collected once yearly and made available to the administration at varying times during the year. Most but not all of the performance measures were represented in pillar goals and are not described in this report. Each university and/or external organizations (eg, Accreditation Council for Pharmacy Education) required the assessment of some of these indicators. While it is important to gather this information for reporting purposes, not all measures indicated quality, nor did they indicate whether the organization was moving toward its established goals or fulfilling its mission.

Data for performance measures were collected from a variety of sources. Student and faculty satisfaction were determined from American Association of Colleges of Pharmacy (AACP) surveys. Graduating student satisfaction and faculty satisfaction were determined by the composite of select questions (combining responses of “agree” and “strongly agree”) from their respective AACP annual surveys. The key performance taskforce determined the questions that are used to measure “satisfaction”, as noted in Appendix 1. National Institutes of Health funding ranking was obtained from the AACP NIH funding data. Other data were simple counts of results each year.

To promote accountability and ensure alignment between annual pillar goals and annual individual performance assessment, pillar goals were incorporated into formalized assessment for individual college administrators, staff members, and faculty members. All faculty evaluations included 2 or more key performance indicators specific to their job responsibilities.

The following passage represents a typical portion of the annual evaluation document for a senior college administrator:

“SCCP Key Performance indicators that are important to parts of your performance review are:

- Faculty satisfaction, which increased from 77% to 81%.
- Student satisfaction, which remained over 90%
- The number (%) of graduates going into residencies, fellowships, or grad school (which increased this past year)
- Faculty attrition rate. This remained low the last year (under 3%).”

In implementing SCCP Excellence, several different behavioral techniques were used from the Studer program to reinforce the importance of customers, whether students, faculty members, or staff members. These included rounding (leaders meeting regularly with supervisees), using the AIDET (acknowledge, introduce, duration, explanation, thank you) approach to interacting with students, managing up, maintaining a formalized meeting agenda structure, and recognizing accomplishments. With rounding, leaders met regularly (weekly, monthly, or at some other regular interval) with supervisees or other individuals important in their activities, typically for 15-30 minutes. Rounding is a technique used by organizational leaders to gather information in a structured way while providing information to an individual faculty or staff member (Table 1). The AIDET approach to interacting relies on 5 key fundamentals of customer service (Table 2). An important component of the program was to “recognize and reward,” which involved identifying and widely communicating individual and organizational successes or “wins.” Each organizational meeting began with a recap of recent student and faculty, and staff member wins, which were also featured in college newsletters and on the Web site. Managing up entails positioning something or someone in a positive light, such as talking to a superior about the good job a supervisee has done, speaking to a class about the accomplishments of a lecturer who follows you, or assuring a patient about the qualifications of the healthcare provider he/she is going to see. A formalized meeting agenda structure also begins with attendees relating recent wins, which may be goals achieved, individual or organizational recognitions, or any important

Table 1. Questions Used During Organizational “Rounding”

What is going well in your area?
Is someone deserving of recognition in your area?
Do you have the basic resources to do your job?
Is there anything that I can do to assist you right now?
The meeting concludes by thanking them for making a difference!
Tough questions should be recorded for follow-up with the individual.

Table 2. The AIDET Approach to Service^a

A - acknowledge the customer, student, colleague, or staff member
I - introduce oneself, your training, and skill sets to build your credibility with customers and students
D - duration, describe how long the session will take.
E - explanation, describe what you are going to do for your customer or student
T - thank you, thank the customer for using your service or the student for choosing your college or participating in the lecture, case discussion, etc.

Example in the classroom: Good morning class! I'm Dr. Philip Hall. I received my BS in pharmacy from the University of Georgia, and my PharmD from the Virginia Commonwealth University. I completed an oncology residency at the Audie L. Murphy Veteran's Administration Hospital in San Antonio, Texas then completed a 2-year cancer immunotherapy fellowship at the University of Texas Health Science Center in San Antonio. I then joined the faculty at the Medical University of South Carolina and have taught and rounded on the oncology ward for the last 20 years. Today, I am going to lecture for 2 hours on colon cancer. We will take a 10-minute break approximately 50 minutes into the lecture. The objectives for this lecture on are on page 1 of the handout, and my examination questions will be based upon these objectives.

At the end of the lecture, thank the students for their attention.

^a Studer Q. Key words at key times. In: Studer Q, ed. *Results That Last*. Hoboken, NJ: John Wiley & Sons, Inc.;2008:281-293.

accomplishment. Meeting content is then organized under the 5 pillars (ie, people, service, quality, growth, and finance). The purpose of the formalized meeting agenda was to align faculty and staff members to goals and to facilitate communication throughout the organization.

Rewarding faculty and staff members for a job well done was intended to improve morale. Although these rewards could be monetary, they were more commonly thank you notes and recognition awards used to improve retention of faculty members and promote satisfaction. Personal notes handwritten by supervisors or deans were sent to individuals to recognize their accomplishments. Each year, 2 to 3 selected faculty and staff members were recognized with an "Extra Mile" award and an "SCCP Excellence" award. The underlying concept was that recognizing and rewarding behaviors reinforces these behaviors and increases the likelihood they will become part of the organizational culture. During rounding, academic administrators were an important source of information about who should receive these thank you notes and awards.

The college administration and faculty and staff members participated in leadership training exercises that included attending small-group sessions to introduce the Studer concepts of the excellence program, leadership development institutes held quarterly since the initial implementation of the program, and sessions held at most of the college retreats to review SCCP Excellence concepts and/or key performance data. New faculty members were introduced to the excellence program during orientation sessions and were required to attend a training session. A major purpose for leadership training was to reduce leadership variance and improve communication. Studer defines leadership variance as the difference between what the results can be and what

actually occurs.¹ Reducing variance can lead to more consistent communication within an organization and greater focus on goals rather than methods.

Full implementation of the quality-improvement program was expected to take 3 or more years. While visioning and goal-setting took place early on, performance measurement required multiple years to establish baselines and to measure progress. Behavioral strategies were implemented early but required 1 to 2 years for full training and to establish consistent behavior. Initial and ongoing training was needed for new faculty and staff members. At least 2 years were needed to fully implement accountability systems into individual annual assessments.

An independent consultant was contracted by the university to lead the university-wide and college-specific quality-improvement program known as MUSC Excellence. The consultant provided a wide array of training and consultative services focusing on improving service within the college, leadership development, and strategic planning and goal setting.

RESULTS

The full continuous quality-improvement program had been in place for over 3 years (2009-2013) at the time of this study. The effectiveness of the program was determined by documented progress in key performance measures for organization goals. Data were available for up to 5 years for each of the top 6 key performance measures above as well as 27 additional measures.

Graduating student satisfaction data were collected for 5 years (2008-2012). The 2008 and 2009 data from graduates completing the legacy programs with a different curriculum and accreditation, were compared with data

from graduates in 2010, 2011, and 2012. For 2009-2012, student satisfaction was 96% to 97% and consistent with the legacy program results in 2008 and 2009. From 2008-2012, faculty satisfaction also steadily increased (Figure 2). NIH-funding ranking improved from 31st in 2006 to 17th in 2011. The number of peer-reviewed journal publications increased from 1.2 to 1.75 per full-time faculty member from 2007 to 2012 (Figure 3). The number of students (expressed as a percentage of the graduating class pursuing additional formal training or degree programs) improved with our increased emphasis on these opportunities (Figure 4). While totals varied from year to year, private giving to the college increased substantially from \$890,000 in 2006 to \$32 million (reflecting 1 gift of \$30 million) in 2010 and \$4.1 million in 2011.

In 2011, 98% of students felt that the SCCP was welcoming to students with diverse backgrounds, compared with 92% in 2008. In response to a survey item regarding students' perception that their faculty member was an effective teacher, the mean student response for all instructors was 4.4 on a scale of 1 to 5. This score was consistent from 2010-2012 and exceeded the college's goal of 4.2. In response to the statement, "I have adequate resources for my scholarship needs," 91% of faculty members agreed or strongly agreed, compared with 77% in 2008. Of 26 pillar goals, targets were achieved for 23. Target goals not fully achieved related to student satisfaction with classroom technology, the number of graduate students, and satisfaction of first- through third-year students, which was 86% vs goal of 90%.

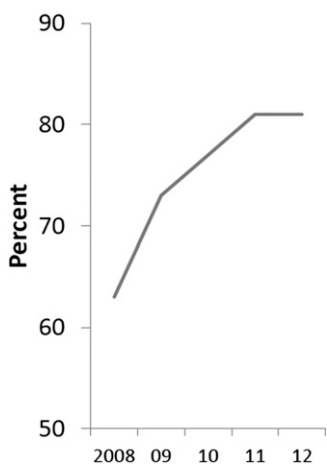


Figure 2. Faculty member satisfaction scores based on 11-question American Association of Colleges of Pharmacy surveys, 2008-2012. In the 2012 survey, these were questions: 2, 15, 18, 27, 28, 33, 46, and composite average of 62, 63, 64, and 65.

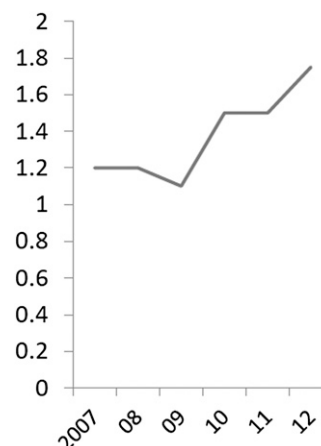


Figure 3. Average number of peer-reviewed journal articles published per faculty member, 2007-2013.

DISCUSSION

To achieve programmatic progress in the 3 domains of the college mission: teaching, research, and service, the college of pharmacy implemented a continuous quality-improvement program. Our program, SCCP Excellence, implements the Studer Group's Hardwiring Excellence approach developed for health systems. Although there is limited peer-reviewed published evidence documenting this approach, the Studer Group won the 2010 Malcolm Baldrige National Quality Award, which gives it validity as a transformative method for healthcare organizations.² While many papers have focused on achieving continuous quality improvement in 1 programmatic area, our results indicate that the Studer approach works in the academic environment to help a college achieve a broad spectrum of programmatic goals.^{3,4}

As part of the program, yearly goals (ie, pillar goals) were determined in alignment with university strategic plans and the college mission. Key performance indicators were selected and behavioral approaches were

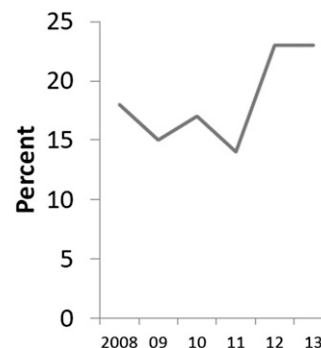


Figure 4. Percentage of graduating students entering a residency or graduate school, 2008-2013.

implemented. Accountability was promoted by inclusion of performance indicators in annual evaluations of administrators and faculty and staff members. Objective data documented incremental improvements for most goals. The SCCP Excellence program promotes a unified focus on goals to move the college forward in achieving quality benchmarks and progress in a positive direction, even when pillar goals are not achieved. However, this continuous quality-improvement project requires more than direction from the dean's office; active participation by faculty and staff members is essential.

One of the challenges of the program is to maintain momentum and focus year after year. This is accomplished by annual review of the pillar goals and results. Goals that are not fully achieved receive added attention the following year so that progress is made. Documenting positive trends helps faculty and staff members and the administration stay encouraged and motivated and reminds everyone of the importance of SCCP Excellence approach. Benchmarking of performance against other designated institutions helps the college gauge performance and maintain its focus. The behavioral components (eg, rounding, AIDET, and writing personal thank-you notes) of the continuous quality-improvement project helped improve achievement of the yearly pillar goals.

Keeping the program active and effective requires effort throughout the year. New faculty and staff members need to be trained on the behavioral aspects of the program and the importance of collection and analyzing performance indicators. The College Assessment Committee reviews all data and incorporates the data into accreditation reports and the assessment committee's annual report. Data are shared among college committees, faculty members, and key stakeholders (ie, college advisory board members and alumni). Based on the data and/or comments from surveys of the various groups, college committees were charged with tasks to improve performance on assessment goals.

Implementation of any continuous quality-improvement program requires faculty-member buy-in as well as adequate financial resources. As part of the ACPE accreditation guidelines, each program should not only collect assessment data but also use these data to identify improvement opportunities. Our faculty members recognize the importance of assessment for accreditation and quality improvement, but they were cautious about using the Studer method because it was originally designed for health-system improvement and had concerns about simply achieving numeric target goals. However, faculty members who worked within the MUSC health system or had used it for care had seen improvements in

customer satisfaction with the implementation of the Studer program, and over time, they recognized the benefits of this program as it resulted in improvements in key performance measures. The cost of this program has been minimal because we used a college taskforce to determine our key performance indicators and used our assessment committee to collect and disseminate the data. However, we did have an outside consultant familiar with Studer principles to help with behavioral approaches and leadership training. While this consultant was extremely helpful, involvement of a consultant is not essential to the success of the program.

To be fully effective, the program should ultimately engage students in the process. Students know of this program through our posting of pillar goals and through various publications (eg, dean's newsletters, the assessment committee report, and by committee service). Increasing student involvement may include teaching them about the importance of quality improvement programs and training students in the AIDET technique which was effective in improving third-year medical students' interaction with their patients.²

CONCLUSIONS

The college implemented a continuous quality-improvement program that aligned annual goals with university strategic goals. The program includes faculty and staff behavioral approaches, use of key performance indicators, and individual accountability measures. This program has kept the college's strategic plan alive by using annual pillar goals to achieve objectives. Multiyear performance data document the effectiveness of the Studer Group program in helping the college focus on all of its missions and achieve progress in quality indicators.

REFERENCES

1. Studer Q. Build the foundation (passion and purpose). In: Struder, Q, ed. *Results That Last: Hardwiring Behaviors That Will Take Your Company to the Top*. Hoboken, NJ: John Wiley & Sons, Inc.;2008:55-73.
2. Vest JR, Gamm LD. A critical review of the research literature on Six Sigma, Lean, StuderGroup's Hardwiring Excellence in the United States: the need to demonstrate and communicate the effectiveness of transformation strategies in healthcare. *Implementation Sci*. 2009;4(7):35.
3. Peterson SL, Wittstrom KM, Smith MJ. A course assessment process for curricular quality improvement. *Am J Pharm Educ*. 2011;75(8):Article 157.
4. Stevenson TL, Hornsby LB, Phillippe HM, Kelly K, McDonough S. A quality improvement course review of advanced pharmacy practice experiences. *Am J Pharm Educ*. 2011;75(6):Article 116.
5. Boehm FH. Teaching bedside manners to medical students. *Acad Med*. 2008;83(6):534.

Appendix 1. South Carolina College of Pharmacy 2011-12 Pillar Goals

PEOPLE	SERVICE	QUALITY	GROWTH	FINANCE
Faculty satisfaction \geq 85% by 2013 ¹	\geq 90% Graduating students would choose the SCCP again for their pharmacy education ⁵	Achieve a \geq 95% pass rate on first time takers of the NAPLEX	On the USC campus, \geq \$1.2 million of private funds received as gifts or pledges	Actual expenses will not exceed any revised budgets for FY2012
\geq 90% of students, faculty, & staff feel the SCCP is welcoming to individuals with diverse backgrounds ²	\geq 90% of our P1 – P3 students are satisfied with the SCCP Doctor of Pharmacy ⁶	Achieve a 95% graduation rate within 4 years of starting the program ⁹	On the MUSC campus, \geq \$3 million of private funds received as gifts or pledges	Implement a plan for the RCM on the MUSC campus
\geq 90% of staff are satisfied with their job ³	At least two faculty members serve in leadership roles in state or national organizations	On a scale of 1 to 5, achieve an average score of \geq 4.2 that students feel the faculty member is an effective teacher. ¹⁰	The number of graduate students increased to 40 by 2012 ¹²	Implement 3 rd year of the Doctor of Pharmacy Curriculum in Greenville
Faculty and staff retention maintained at \geq 95% of current numbers ⁴	Improve faculty satisfaction with classroom technology to \geq 70% ⁷	Maintain a top 20 ranking in NIH funding for Colleges of Pharmacy	Implement new curriculum in the P1 year	Align MUSC & USC strategic plans with SCCP strategic plan
\geq 90% of faculty & staff are respectful of one another ¹³	\geq 90% of students agree their interprofessional training within the SCCP has been valuable	Increase the # of students seeking a residency, fellowship, or graduate education to 25% by 2014	Increase the # of peer-reviewed publications to 1.8/faculty member in 2013 ¹¹	Improve student satisfaction with classroom technology to $>$ 70% ⁸

Abbreviations: NAPLEX= North American Pharmacist Licensure Examination; MUSC=Medical University of South Carolina; RCM=responsibility-centered management; NIH=National Institutes of Health; USC=University of South Carolina

- ¹ The composite score from AACP faculty survey instrument for questions 2, 15, 18, 27, 28, 33, 46, and composite average of 61, 62, 63, and 64.
- ² From AACP graduating student survey instrument, "The College/School of Pharmacy is welcoming to students with diverse backgrounds." > 90% of faculty and staff agree that SCCP's culture values diversity from the annual faculty and staff satisfaction survey instrument.
- ³ From the annual staff satisfaction survey question, "Yes, overall, I am satisfied with my job"
- ⁴ Includes only positions with ≥ 0.5 FTE from the SCCP; excludes retirements.
- ⁵ For P4 students, question #84 from American Association of Colleges of Pharmacy (AACCP) graduating student survey instrument, "If I were starting my pharmacy program over again, I would choose the same college/ school of pharmacy."
- ⁶ For P1- P3 students from our internal student satisfaction survey instrument, "Overall, I am satisfied with the SCCP Doctor of Pharmacy Program."
- ⁷ From added questions to AACP faculty survey instrument
- ⁸ From P1- P3 students from our internal student satisfaction survey instrument
- ⁹ Excludes students in the M.S. Clinical Research Program
- ¹⁰ Utilizing the question from the instructor evaluation, "Students satisfied with faculty as an effective teacher" achieve an average of ≥ 4.2 (scale 1-5).
- ¹¹ For a calendar year only; does not include in press or accepted manuscripts
- ¹² PhD only
- ¹³ from SCCP/MUSC Excellence survey instrument