

Minnesota Surgical Technology Pilot Project Report

Executive Summary

Purpose

The Board of Trustees of Minnesota State Colleges and Universities (MnSCU) submits this report on surgical technologists in accordance with Chapter 364, Section 32 of the Session Laws of the 86th Legislature.

Demand

According to the Department of Employment and Economic Development, 2012 estimated actual/current employment for surgical technologists is 1,670 with a median wage of \$23.44 per hour. The profession is projected to grow at 21% compared to an overall growth rate of all professions of 13%. DEED projects 670 total openings between 2010-2020.

Education/Supply

Minnesota is well-served by nine surgical technologist programs which are geographically distributed throughout the state. All programs are accredited by the Commission on the Accreditation of Allied Health Programs or the Accrediting Bureau of Health Education Schools. Six of the nine programs are offered by MnSCU institutions. Programs graduate approximately 140 students per year with MnSCU programs accounting for approximately 71% of total graduates. MnSCU programs report strong certification exam pass rates for students with three programs achieving 100% pass rates. These programs also report almost 90% employment rates for students seeking related employment within one year of completion.

A survey of MnSCU surgical technology program directors found that most believe there is not a shortage of surgical technologists within their community or region. Most directors noted a national shortage, however. MnSCU programs are generally full with three programs reporting waiting lists. Challenges to expanding enrollment include adding courses and faculty and securing clinical experiences in hospitals or other settings for students.

Pilot Project

From June 2009 to June 2012, Anoka Technical College and Fairview Health Services worked in partnership to identify surgical technologists who were successfully working in that role but who were not certified by the National Board of Surgical Technology and Surgical Assisting (NBSTSA). Supported by a Minnesota Job Skills Partnership grant, Anoka Technical College prepared and delivered a 20-hour certification review course to 64 Fairview employees. Of the 64 employees, 25 completed and successfully passed the NBSTSA certification exam. The pilot project highlighted the partnership between both organizations and indicated employer support for certification within the surgical technology workforce.

Participants completing the certification course and their employer, Fairview Health Services, reported high satisfaction with the project. Challenges to enrollment and completion included

lack of employee incentive/motivation to obtain certification, time constraints of employees balancing work and family responsibilities, and fear of failure.

Recommendations

The following recommendations are made to ensure that Minnesota's hospitals and surgery centers have access to highly-qualified surgical technologists:

- Encourage partnerships between providers and MnSCU programs to identify additional clinical site capacity to enable programs to expand in regions where employers struggle to find certified surgical technologists.
- Provide financial support to add surgical technology to The Clinical Coordination Partnership through HealthForce Minnesota to make clinical site scheduling more efficient and effective.
- Establish a statewide workgroup consisting of providers and educators, modeled after the HealthForce Minnesota Clinical Laboratory Workgroup, to routinely bring stakeholders together to identify and solve workforce issues.
- Explore creating a shared certification preparation course among employers which would leverage faculty expertise and resources.
- Continue working with the accredited colleges' program advisory boards to ensure workforce needs are being addressed.
- Facilitate replication of the pilot project to prepare current employees for national certification when requested by employers.

Surgical Technology Pilot Project Report

Legal Requirement

Pursuant to Session Law Chapter 364, Section 32, of the 86th Legislature, the Board of Trustees of Minnesota State Colleges and Universities submits this report on Surgical Technologists. The legal citation and language is provided below:

- 15.19 Sec. 32. SURGICAL TECHNOLOGISTS PILOT PROJECT.
- 15.20 Subdivision 1. Surgical technologists; training and employment pilot project.
- 15.21 The Board of Trustees of Minnesota State Colleges and Universities shall establish a pilot
- 15.22 project to develop partnerships and training and employment opportunities for surgical
- 15.23 technologists. The pilot project must develop partnerships between a health care facility
- 15.24 located within 25 miles of an accredited surgical technologist program offered by a
- 15.25 Minnesota State Colleges and Universities institution and the institution. The partnerships
- 15.26 must promote the employment and retention of surgical technologists, working in
- 15.27 accordance with law, regulations, including Code of Federal Regulations, title 42,
- 15.28 section 482.51, and contract provisions, who have successfully completed an accredited
- 15.29 educational program and who hold and maintain a certified surgical technology credential
- 15.30 from a nationally recognized and accredited surgical technologist certifying body.
- 15.31 This subdivision expires June 30, 2014.
- 15.32 Subd. 2. Report. The board of trustees shall report on the pilot project under this
- 15.33 section to the appropriate legislative chairs by January 1, 2013, with recommendations
- 16.1 to enhance surgical technologist training and to ensure an adequate supply of surgical
- 16.2 technologist graduates to meet the needs of facilities.

Description/Definition of Surgical Technologist

Surgical technologists are an integral part of the surgery team working under the supervision of the surgeon. According to the Association of Surgical Technologists, surgical technologists are:

...allied health professionals, who are an integral part of the team of medical practitioners providing surgical care to patients. Surgical technologists work under the supervision of a surgeon to facilitate the safe and effective conduct of invasive surgical procedures, ensuring that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety. Surgical technologists possess expertise in the theory and application of sterile and aseptic technique and combine the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

Other descriptions/definitions of surgical technologists are found in Attachment A.

Requirements

Surgical technologists are not a licensed profession in Minnesota and there is no federal or state requirement that hospitals or ambulatory surgery centers employ board-certified surgical technologists as part of the surgical team. There is an effort underway in some states, including Minnesota, to require licensure and/or utilization of certificated surgical technologists.

Demand in Minnesota

According to the most recent available data from the Minnesota Department of Employment and Economic Development, there are approximately 1,700 surgical technologists employed in Minnesota. The Department rates surgical technologist as a favorable occupation relative to others in the state. The job vacancy rate in the 2nd quarter of 2012 was 1.9% which is less than the overall vacancy rate of 2.5% for the state.

Statewide Demand Data

Occupation Title	2012 Estimated Employment	Current Occupations in Demand Indicator (5=high)*	2012 Median Hourly Wage	2 nd Quarter 2012 Job Vacancy Rate**	2010-2020 Projected Growth Rate	2010-2020 Projected Total Openings***
Surgical Technologists	1,670	4	\$23.44	1.9%	21.1%	670
Statewide Total, All Occupations	2,595,450		\$17.86	2.5%	13.0%	1,041,500

*Represents how favorable current demand conditions are for an occupation relative to other occupations in the state. Occupations are rated using a combination of local labor market data, and then assigned an indicator from 5 (more favorable current demand conditions) to 1 (less favorable current demand conditions).

**An estimate of the percent of job vacancies relative to all filled jobs in the occupation. A high vacancy rate indicates a relatively strong demand for this occupation.

***Includes growth and replacement demand.

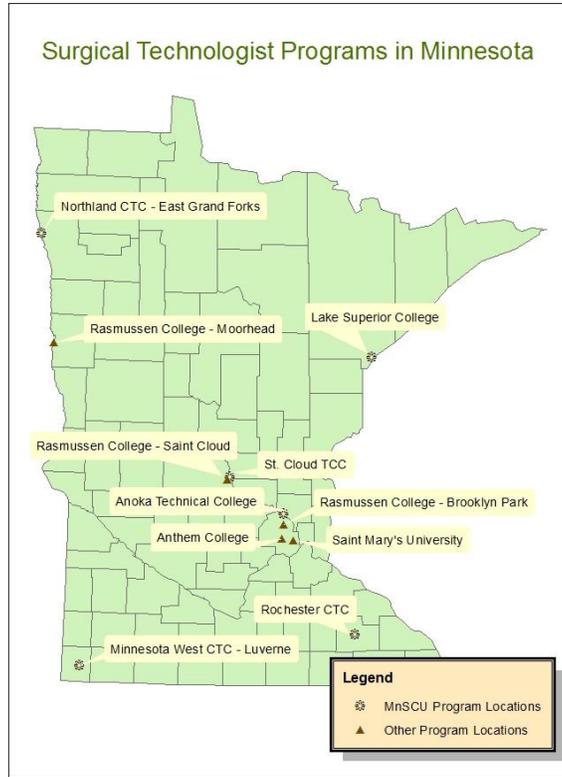
Source: Minnesota Department of Employment and Economic Development, Labor Market Information Office

As shown above, growth is projected to be approximately 21% between 2010 and 2020, a rate that is more than 50% higher than all occupations in the state. In terms of numbers, the Department is projecting 670 total openings between 2010 and 2020.

Supply of Surgical Technologists

There are nine surgical technologist programs in Minnesota. Students may receive a diploma or Associate of Applied Science following successful completion of the program requirements which, in the Minnesota State Colleges and Universities system, include 45 to 60 credits, respectively. Six of the nine programs are offered by MnSCU institutions, one program is offered by a private non-profit, and two programs are offered by are a private for-profit. As shown in the map below, programs are very geographically accessible.

Map of Surgical Technologist Programs



As shown below, Minnesota’s educational institutions reported a total of 196 completers (AAS degree or diploma) in 2009, 145 in 2010, and 144 in 2011.

Surgical Technologist Awards, 2009-2011

Institution	Type	Location	# of Awards		
			FY 2009	FY 2010	FY 2011
Anoka Technical College	MnSCU	Anoka	23	17	18
Anthem College*	Private, For Profit	St. Louis Park	38	20	16
Lake Superior College	MnSCU	Duluth	20	16	14
MN West Community and Technical College	MnSCU	Luverne	7	12	13

Northland Community and Technical College	MnSCU	East Grand Forks	21	17	12
Rasmussen College	Private For Profit	Brooklyn Park, Moorhead, St. Cloud	14	0	0
Rochester Community and Technical College	MnSCU	Rochester	23	21	24
St. Cloud Technical and Community College	MnSCU	St. Cloud	16	18	21
Saint Mary's University	Private Not for Profit	Minneapolis	34	24	26
TOTAL			196	145	144

* Anthem's website indicates that it is no longer enrolling students for this program at this location.

Note 1: Mayo School of Health Sciences partners with Rochester Community and Technical College and Northland Community and Technical College in a surgical technology program.

Source: MnSCU System Office Research, Planning and Effectiveness. For a breakdown of awards by level, see Attachment B.

Related In-Field Employment

One measure of program need is the success rate of students who are looking for employment in their field of study upon completion. For each fiscal year, July 1-June 30, MnSCU institutions survey graduates to determine how many are seeking employment related to their degree and how many have secured employment related to their degree. As shown below, completers of MnSCU surgical technologist programs have fairly strong in-field employment rates ranging from 73% at Minnesota West Community and Technical College to 100% at Lake Superior College, Northland Community and Technical College, and St. Cloud Technical and Community College.

Related Employment Rates, MnSCU

Institution	2011 Completers	2011 Completers Available for Related Employment	2011 Completers with Related Employment	Related Employment Rate
Anoka Technical College	18	17	16	94%
Lake Superior College	14	11	11	100%
Minnesota West Community and Technical College	13	11	8	73%
Northland Community and Technical College	12	6	6	100%
Rochester Community and Technical College	24	22	17	77%

St. Cloud Technical and Community College	21	17	17	100%
Total	102	84	75	89%

SOURCE: MnSCU System Office Research, Planning and Policy. For data from 2009-2011, see Attachment C.

Accreditation

There are two accrediting bodies for surgical technology, the Commission on the Accreditation of Allied Health Programs (CAAHEP) or the Accrediting Bureau of Health Education Schools (ABHES). All programs in Minnesota are accredited by CAAHEP with the exception of Anthem which is accredited by ABHES. As previously stated, Anthem is also not admitting students at this time.

MnSCU Program Director Survey

The program directors of the six MnSCU surgical technologist programs were surveyed in October 2012. The intent of the survey was to understand how the programs are responding to the workforce needs of their communities, regions, and state, with particular attention given to accreditation, and certification and employment of graduates.

Every MnSCU surgical technologist program is accredited; most have been accredited for 15 or more years. The most recently accredited program is offered by Minnesota West Community and Technical College. While all MnSCU programs require students to take the certification exam, passing the exam is not a requirement of degree completion. The vast majority of students in the most recent academic year 2012 passed the certification exam on the first try with the results ranging from 78% at St. Cloud Technical and Community College to 100% at both Northland Community and Technical College and Rochester Community and Technical College. Students are able to retake the exam and some schools reported an increase in pass rates when subsequent certification exams are included.

Program Accreditation and Certification Pass Rate, MnSCU

Institution	Accredited Since	AY 2012 1st Time Pass Rate on Certification Exam	AY 2012 Overall Pass Rate on Certification Exam
Anoka Technical College	1990	89	100
Lake Superior College	1995	82	82
Minnesota West Community and Technical College	2009	80	80
Northland Community and Technical College	1978	100	100
Rochester Community and Technical College	1974	100	100

St. Cloud Technical and Community College	1980	78	78
---	------	----	----

SOURCE: Program Director Survey; see Attachment D for complete survey and results

The certification exam is offered online at three locations in Minnesota (Duluth, Blaine, and Rochester) and Sioux Falls, SD, and Fargo, ND. The tests are typically available every day, Monday through Saturday, making access to certification exams geographically accessible and flexible.

Program directors were asked to provide an estimate of the costs associated with accreditation. Representative and informative excerpted responses from the program director survey highlights accreditation costs:

The program is accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs) in cooperation with the ARC/STSA (Accreditation Review Council for Surgical Technology/Surgical Assisting). The average annual cost is \$1,500. In addition, faculty are strongly encouraged to attend annual ARC/STSA and AST (Association of Surgical Technology) sponsored events – so costs vary depending upon location and availability.

The annual fee from ARC/STSA is \$1,500 to maintain accreditation plus \$450 annually to CAAHEP. There is also additional time that is compensated to program leaders to maintain accreditation. There are many requirements that the program has to document and keep up to date to maintain accreditation.

An important component of accreditation is ensuring that students receive a high-quality education that meets the needs of employers. As such, program directors submit annual reports to CAAHEP detailing student outcomes including completion, certification rates, and employment rates. When surveyed, program directors reported in-field employment rates of between 52 and 90 percent for students in Academic Year 2012. Program directors were also asked to estimate how many were employed in Minnesota.

Estimated Rate of Completer Employment in Minnesota, MnSCU

Institution	Estimated Percent of Students Employed in MN
Anoka Technical College	90%
Lake Superior College	60%
Minnesota West Community and Technical College	70%
Northland Community and Technical College	90%
Rochester Community and Technical College	90%
St. Cloud Technical and Community College	Majority

SOURCE: Program Director Survey; see Attachment D for complete survey and results

MnSCU surgical technology programs are well-subscribed with three program directors reporting a waiting list. The most mentioned barrier to expansion was access to clinical sites for

students. Clinical site availability is a growing concern for most, if not all, healthcare education programs.

Each of the six programs has an Advisory Board which includes regional employers of surgical technologists. This structure provides important feedback to the program about the current needs of employers, employer satisfaction with graduates, trends in the field, and future needs. The involvement of employers on the Advisory Board is seen as critical to the ongoing success of programs and serves to ensure that employer needs are being met.

Program directors were asked about the extent of unmet need for surgical technologists. As shown in the table below, most believed the unmet need is highest when looking at the country as a whole.

Perceptions of Unmet Need

Do you believe there is an unmet need for surgical technologists in your:	Number Responding Yes (N=6)	Number Responding No (N=6)
Community	1	5
Region	2	4
Minnesota	3	3
U.S.	5	1

SOURCE: Program Director Survey; see Attachment D for complete survey and results

The Pilot Project

Utilizing funding from a Minnesota Job Skills Partnership, Anoka Technical College implemented a pilot project with Fairview Health Services to provide certification exam preparation for incumbent workers throughout the system. The pilot project took place between June 2009 and June 2012 and served 64 incumbent surgical technologists. The project also included a sterile processing certification component. Both surgical technologist and sterile processing technician are positions within the Minnesota’s healthcare system that do not require certification. Fairview recognized the increasing need for staff to obtain and maintain certification and worked with Anoka Technical College to provide a pathway for its incumbent staff to obtain certification.

Faculty at Anoka Technical College developed a 20-hour certification preparation course that was available to all Fairview surgical technologists. The course prepared the incumbent workers for the NBSTSA certification exam. Fairview identified 298 employees who were eligible to take the two certification training offerings although approximately 50 percent completed the trainings (n=144). Surgical technologists trainees made up 44 percent of the trainees (n=64). Of the 64 surgical technologist trainees who completed the certification preparation course, 25 went on to take and pass the certification exam.

Fairview human resource and workforce development staff worked diligently to encourage employees to participate in the pilot. Anoka Technical College faculty not only provided the surgical technology content but also fostered discussion about the value of certification. In addition, participants who successfully passed the certification exam were reimbursed the cost of

the exam and received a bonus. These factors certainly contributed to the success of the pilot. Fairview reported that the increase in certified surgical technologists was beneficial and that it remains committed to increasing the number of certified surgical technologists (and sterile processing/central service technicians).

Employees reported satisfaction with the instruction and found the course to be relevant to their work and believe it increased their understanding of the job. Employees also gave faculty high marks.

However, the pilot project provided several insights into the challenges that employers face with regard to advancing the credentials of their surgical technology staff. Feedback from participants about challenges associated with taking the course and the exam included:

- Text anxiety
- No benefit to obtaining certification since there is no increase in salary associated with certification
- No need to obtain certification since it is not a requirement of the position
- Language barriers make written testing difficult
- Upcoming retirement limited employee motivation to become certified
- Work and family obligations interfere with the ability to complete the course and prepare for the exam
- Employees shared they had an uneasiness about admitting that they did not understand a topic

The certification preparation course was offered in a face-to-face environment. This delivery method was intentionally selected for several reasons. First, it allowed students to interact with each other as peers in a cohort – something that is often more easily achieved when meeting face-to-face, especially for a short-term course. Second, the more traditional format alleviated anxiety about online learning and technology, a particular concern for an adult learner. Third, the in-person delivery allowed the instructor to work more effectively with students over the course of the 20-hour course.

In the future, an online component to this type of certification preparation exam might be useful although the certification body already offers this type of preparation. In addition, employers might look to on-site delivery if the number of employees is sufficient to make that delivery option feasible.

Recommendations

- Encourage partnerships between providers and MnSCU programs to identify additional clinical site capacity to enable programs to expand in regions where employers struggle to find certified surgical technologists.
- Provide financial support to add include surgical technology in The Clinical Coordination Partnership to make clinical site scheduling more efficient and effective.
- Establish a statewide workgroup consisting of providers and educators, modeled after the HealthForce Minnesota Clinical Laboratory Workgroup, to routinely bring stakeholders together to identify and solve workforce issues.
- Explore creating a shared certification preparation course among employers, which would leverage faculty expertise and resources.
- Continue working with program advisory boards to ensure workforce needs are being addressed.
- Facilitate replication of the pilot project when requested by employers.

Attachment A

Descriptions of Surgical Technologist

http://anokatech.edu/future_students/subjects/surgicaltechnology/index.html

Industry Description

Working as a surgical technologist, you will function mainly as a scrub person in a hospital operating room. The Technologist sets up the instruments, drapes, sutures, and supplies for surgical procedures, assists the surgeon and other operating team members with gowning and gloving for surgery, hands instruments, sutures, and supplies to the surgeon throughout the operative procedure. As a student, you will study surgical procedures, asepsis (sterile technique), preparation of the patient for surgery, surgical instruments and equipment, and the physical conditions that make it necessary for a person to have surgery. Surgical Technologists work closely with surgeons and registered nurses, are able to anticipate the needs of the physician during surgery, and assist in the care of the patient during surgical procedures.

<http://www.iseek.org/careers/careerDetail?id=2&oc=100203>

Before surgery, technologists help set up the operating room. They wash and sterilize instruments. They place sterile linens and solutions. They set up, adjust, and check non-sterile equipment to be sure it works properly. Technologists also prepare patients for surgery. They transport patients to the operating room. They help position patients on the table and cover them with surgical "drapes." They also observe patients' vital signs. In addition, technologists help the surgical team scrub and put on gloves, gowns, and masks.

During surgery, technologists pass instruments and supplies to surgeons and their assistants. They hold retractors (instruments that hold back the edges of a wound) or cut sutures (stitches). They maintain supplies of fluid, such as blood or saline. Technologists may operate other equipment, such as lights or suction machines. They may also help apply dressings to patients' incisions. In addition, they help count sponges, needles, and instruments. Technologists prepare and care for specimens taken for lab analysis.

After surgery, technologists help transfer patients to the recovery room. Then they clean and restock the operating room for the next procedure.

Attachment B
Completer Data, 2009-2011

Attachment C

Related Employment Data, MnSCU

Attachment D

MnSCU Program Director Survey Results