

Nursing Cost Estimates: Educating One Nurse

Prepared in partnership with Minnesota Rural
Futures

Prepared by
Jedd Smith, Graduate Research Assistant,
University of Minnesota
September 2002

CAP Report 051

CURA RESOURCE COLLECTION

**Center for Urban and Regional Affairs
University of Minnesota
330 Humphrey Center**

Community Assistantship Program

Nursing Cost Estimates: Educating One Nurse

The Community Assistantship Program is made possible by the generous support of the McKnight Foundation, the Otto Bremer Foundation, the Initiative Foundation, the Southwest Minnesota Foundation, the Northwest Minnesota Foundation, and the West Central Initiative Fund. Within the University of Minnesota, support is provided by Central Administration, the Rural Development Council, The College of Human Ecology, the University of Minnesota Extension Service, the College of Natural Resources, the College of Education and Human Development, the College of Agriculture, Food and Environmental Sciences, the Minnesota Institute for Sustainable Agriculture, the College of Liberal Arts, the College of Architecture and Landscape Architecture, the Carlson School of Management, the Center for Small Towns, the Center for Urban and Regional Affairs, and the five Regional Sustainable Development Partnerships.

CAP Acknowledgement/Disclaimer

August, 2002

The Community Assistantship program (CAP) supported the work of the author of this report but has not reviewed it for publication. The content is solely the responsibility of the author and is not necessarily endorsed by CAP.

Cap is a cross-college, cross-campus University of Minnesota initiative coordinated by the Center for Urban and Regional Affairs. CAP is supported by grants from The McKnight Foundation, the Otto-Bremier Foundation, the Initiative Fund of Southeast and South Central Minnesota, the Initiative Foundation, the Northwest Minnesota Foundation, and the Southwest Minnesota Foundation. CAP receives support from the following units of the University of Minnesota: the Office of the Vice President and Provost, the Rural Development Council, the Experiment in Rural Cooperation, the NE Minnesota Sustainable Development Partnership, the Central Region Sustainable Development Partnership, the Southwest Sustainable Development Partnership, the College of Human Ecology, the University of Minnesota Extension Services, the College of Natural Resources, the College of Education and Human Development, the Minnesota Institute for Sustainable Agriculture, the Center for Small Towns, the College of Agriculture, Food and Environmental Sciences, the College of Liberal Arts, the Carlson School of Management and the College of Architecture and Landscape Architecture.

Community Assistantship Program
330 Hubert H. Humphrey Center
301-19th Avenue South
Minneapolis, MN 55455
Phone: 612-251-7304
E-mail: joann001@umn.edu

Table of Contents

CAP ACKNOWLEDGEMENT/DISCLAIMER	2
TABLE OF CONTENTS	3
EXECUTIVE SUMMARY	4
OVERVIEW AND BACKGROUND	6
LITERATURE REVIEW	8
COST ESTIMATES	10
UNIVERSITY OF MINNESOTA.....	10
ST. CLOUD UNIVERSITY	11
NATIONAL STUDY	12
DEVELOPMENT OF A TEMPLATE	13
TEMPLATE	13
COMPLICATIONS.....	15
RECOMMENDATIONS	16
CONCLUSION	17
BIBLIOGRAPHY.....	18
ORGANIZATIONS.....	18
PEOPLE	18
LITERATURE	19

Executive Summary

In conjunction with the University of Minnesota Community Assistance Program, MNSCU's E-learning Initiative and the Healthcare Education Industry Partnership, Minnesota Rural Futures undertook a study to determine the true institutional costs of educating nurses. This study was undertaken because of the numerous studies identifying and predicting current and future shortages of nurse in the United States and in Minnesota. Minnesota Rural Futures desired accurate information on the cost of starting, expanding and or operating nursing education programs. The ultimate goal of the study was to ascertain an annual dollar amount associated with the cost of educating one BSN and one AD nurse in the state of Minnesota. The project was also building a case for calculating not only tuition but also associated and indirect costs of the educating institution. We wanted to be able to stand before the legislature of Minnesota and declare, "it costs \$XX,XXX amount of dollars per year to educate one nursing student".

The study began by reviewing literature to determine the best methods for calculating nursing costs. This was followed by template development and a review of nursing cost estimates from the University of Minnesota, St. Cloud State and the American Association of Colleges of Nursing (AACN). The sample template and nursing cost estimates was then disseminated for review by various Minnesota campus deans and directors. Feedback from the template and sample nursing cost estimates was then used to build a template formulated for gathering information.

The anticipated outcome of collecting a dollar amount for the cost of educating a nurse could not be accomplished due to the constraints in the collection of line item

specific costs from each college anticipated for sampling. There was also a constraint with the time frame allotted for the project.

Although further research could be done to collect college specific data using the template, most colleges would require an extensive commitment to collect the data necessary. The line items in the template are often kept in different areas of the college or university. One university controls the nursing education costs within the nursing program and another college or university would only have nursing education costs in the finance department. Even within the departments where nursing education cost is kept, line item specific information is not always available or accounting practices may define them differently.

Even though the data was difficult to ascertain, it is clear that nursing education costs are higher than many other program costs. Government and private funding of nursing education will have to be increased to support and prepare for the current as well as nursing education needs.

Overview and Background

There is a current shortage of nurses all across the country and Minnesota is no exception. In wake of the aging baby boomer population, the projected demand for nurses is even more frightening yet in the United States and within the State of Minnesota many qualified nursing students are turned away each year. This is often due to the lack of insufficient funds to facilitate the education of these nurses. Many nursing schools are struggling to remain open despite declining enrollments due to the lack of funding. The cost to train a nurse is comparatively high because of the requirement for low student to faculty ratios, sophisticated clinical equipment, computer software and hospital units for training.

Three organizations along with and in conjunction with the University of Minnesota Community Assistantship Program undertook a study to develop a template where cost estimates could be gathered and an estimate of how much it cost to educate a nursing student could be calculated. The three organizations that supported this study were the Healthcare Education Industry partnership, Minnesota Rural Futures, and Minnesota State Colleges and Universities e-learning initiative. :

Healthcare Education Industry Partnership (HEIP): a targeted partnership between higher education and health care services to address healthcare workforce issues. The organization was funded by the Minnesota State Legislature in 1998. The vision statement of HEIP is to improve the health of Minnesotans through a well-educated and appropriately trained workforce, sufficient to meet the demand of citizens of Minnesota.

Minnesota Rural Futures (MRF): a non-profit organization working on rural policy issues

MNSCU's e-learning initiative: The 107th Congress approved a \$2,000,000 grant for MNSCU to continue its E-Learning Initiative. This funding is for the following two tasks; curriculum that is responsive to the rapidly changing needs of a knowledge-based society and the development of an e-mentoring environment to support e-learning needs.

Literature Review

An extensive review of current national as well as state level cost methodologies was conducted to find a best practice. The review focused primarily on finding a model where a template could be developed and applied to a large number of institutions within the state of Minnesota.

The review of the literature did not reveal a standard costing methodology, nor did it indicate any current studies being conducted. However, the review did verify the frequency of questions concerning nursing education costs and that some research had been done laying out a framework for assessing institutional, clinical agency and student costs. Unfortunately, the data is very old

The national search began by contacting the Health Resources and Services Administration at the Department of Health and Human Services. Annette Tyree Debisette, the Acting Branch Chief over the Advanced Nurse Education Branch was contacted along with Donna English the Deputy Director. One of the most helpful undergoing was an inquiry of Geraldine Bednash, the Executive Director of the American Association of Colleges of Nursing.¹ The National Conference of State Legislators was also reviewed along with the National League for Nursing, the Illinois Community College Board, the University of California San Francisco's Center for Health Professions and the Western Interstate Commission for Higher Education.

¹ Study on Cost of Nursing Education Part II Cost of Basic Baccalaureate and Associate Degree Programs National League for Nursing 10 Columbus Circle, New York, N.Y. 10019 1965

A state level search was also conducted resulting in beneficial information. The first inquiry began at the University of Minnesota School of Nursing, followed by Minnesota State Colleges and Universities and then St. Cloud State University.

Cost Estimates

After a review of the literature, cost estimates were calculated compared using data from the University of Minnesota, St. Cloud State and a National Study conducted in 1986 but extrapolated to account for inflation. Campus deans and directors reviewed the data to determine if the estimates were accurate and consistent. The results are as follows.

University of Minnesota

University of Minnesota - School of Nursing 2001 Data

Instruction	\$6,431,355
Research	\$1,688,027
Public Service	\$292,176
Academic Support	\$1,623,916
Student Financial Aid	\$341,851
Institutional Support	\$201,420
Plant	\$0
Other	\$0
Total	\$10,578,745

Total number of students in 2001 = 499

**Cost of educating one BSN nursing student/per year =
\$21,200**

**This value does not include any institutional expenses
such as Property, Plant, & Equipment)**

St. Cloud University

St Cloud University	
Faculty Salary + Benefits	\$585,921
Supplies/laundry Services	\$5,000
Library Resources (Journals, Books.)	\$25,000
Operating Expenses	\$34,100
Total	\$650,021

The figures above are projected for 35 students

Cost of educating one BSN nursing student/per year =
\$18,572

This takes into account equipment and operating expenses, however, does not include startup expenses

Startup Expenses for St. Cloud University	
Nursing Skills Laboratory	\$438,483
Equipment	\$99,157
Library Resources	\$150,945
Director Salary	\$102,651
Application for accreditation fee	\$5,500
Consultant Fee	\$7,000
Accreditation Visit	\$3,000
Total	\$806,736

National Study

Development of a Template

1986 study projected for 2001
Cost of educating one BSN nursing student/per year
= \$22,476
Does not take into account startup costs

Template

Number of Students used to calculate the actual costs below

Category	Item	Cost
Salaries	Professor/Ph.D. in Nursing	\$20,000
	Associate Professor/Ph.D.	\$15,000
	Assistant Professor/MS in Nursing	\$10,000
	Part-time Instructors/BS in Nursing	\$5,000
	Administrators	\$5,000
	Graduate Assistants	\$5,000
Benefits	Support Staff	\$5,000
	Professor/Ph.D. in Nursing	\$20,000
	Associate Professor/Ph.D.	\$15,000
	Assistant Professor/MS in Nursing	\$10,000
	Part-time Instructors/BS in Nursing	\$5,000
	Graduate Assistants	\$5,000
Administrative Expenses	Administrators	\$5,000
	Support Staff	\$5,000
	Office Supplies, Materials	\$5,000
Printing and Publications	Communication, Telephone, Fax, Email, Internet	\$5,000
	Postage, Shipping	\$5,000
	Reports/Production	\$5,000
Other	Brochures, Pamphlets, Other	\$5,000
		\$5,000

Development of a Template

Based on the methodologies reviewed in the literature and through discussion with campus deans and directors, a template was developed for dissemination whereby we could gather and calculate both direct and indirect costs from the individual institutions. The template below was developed.

Template

Number of Students used to calculate the annual costs below =				
		Didactic	Clinical	Total
Salaries				
	Professor/Ph.D. in Nursing			\$0.00
	Associate Professor/Ph.D.			\$0.00
	Assistant Professor/MS in Nursing			\$0.00
	Part-time Instructor/MS in nursing			\$0.00
	Administrators			\$0.00
	Graduate Assistants			
	Support Staff			\$0.00
Subtotal		\$0.00	\$0.00	\$0.00
Benefits				
	Professor/Ph.D. in Nursing			\$0.00
	Associate Professor/Ph.D.			\$0.00
	Assistant Professor/MS in Nursing			\$0.00
	Part-time Instructor/MS in nursing			\$0.00
	Graduate Assistants			
	Administrators			\$0.00
	Support Staff			\$0.00
Subtotal		\$0.00	\$0.00	\$0.00
Administrative Expenses				
	Office Supplies, Materials			\$0.00
	Communication, Telephone, Fax, Email, Internet			\$0.00
	Postage, Shipping			\$0.00
Subtotal		\$0.00	\$0.00	\$0.00
Printing and Publications				
	Reports/Production			\$0.00
	Brochures, Pamphlets, Other Materials			\$0.00
Subtotal		\$0.00	\$0.00	\$0.00

Operating Expenses			
	General Insurance (group and property)		\$0.00
	Auditing (public auditors)		\$0.00
	Commencement		\$0.00
	Utilities (electricity, heat, etc..)		\$0.00
	Continuing Education and Staff Development		
	Travel		\$0.00
	ITV		\$0.00
Subtotal		\$0.00	\$0.00 \$0.00
Equipment			
	Computers, Printers, Copier, Scanner		\$0.00
	LCD Projector		\$0.00
	Overhead Projector		\$0.00
	Nursing specific equipment		\$0.00
	Medical Supplies (gloves, masks, syringes, etc.)		\$0.00
Subtotal		\$0.00	\$0.00 \$0.00
Maintenance			
	Equipment Repair		\$0.00
	Janitorial Services		\$0.00
Subtotal		\$0.00	\$0.00 \$0.00
Library			
	Journals, Videotapes, Software		\$0.00
	Core Collection of Medical Books		\$0.00
Subtotal		\$0.00	\$0.00 \$0.00
Total		\$0.00	\$0.00 \$0.00
Startup Expense			
	Application for accreditation fee		\$0.00
	Consultant Fee		\$0.00
	Nursing Labs and Equipment		\$0.00
	Staff (Curriculum writing; project direction; admin		
	Marketing of Program		
	Recruitment		
	Accreditation Visit		\$0.00
Total		\$0.00	\$0.00 \$0.00
Grand Total		\$0.00	\$0.00 \$0.00

Complications

Many complications arose from this study. The five major constraints in this study are outlined below.

1. Few studies have been conducted calculating the true institutional costs of nursing education. What few studies have been conducted do not always take into account the indirect and clinical costs associated with nursing education.
2. The data from the literature review is outdated and questionable
3. Collecting institutional specific and line item specific data is extremely difficult because each institution has different policies and procedures on which departments track costs.
4. Some institutions do not grant access to line item specific information without special permission.
5. Those departments that do track costs have different accounting procedures for tracing line items and may define those items differently.

Recommendations

If further research were to be done on this topic, the initial steps would be to collect institution specific and line item specific information using the cost template developed. This will be a very time consuming and arduous task because of the many complications outline above. After the data is collected, an annual cost per institution can be calculated and averaged across the state of Minnesota. The end result would be an annual average cost of educating one nursing student.

Conclusion

The results of this project are that there are few studies where indirect and clinical institutional costs were calculated. State policy makers, however, frequently request information on the costs of nursing education and the numbers they receive often don't consider all of the additional indirect and clinical costs. However, based on the research gathered and the cost estimates developed, it is evident that more state funding for nursing education will be required to meet the current and projected nursing shortages in the state of Minnesota.

Bibliography

Organizations

1. American Association of Colleges of Nursing <http://www.aacn.nche.edu>
2. Healthcare Education Industry Partnership website <http://www.heip.org/index.htm>
3. National League for Nursing <http://www.nln.org>
4. National Conference of State Legislators <http://www.ncsl.org>
5. National Center for Education Statistics <http://www.nces.ed.gov>
6. Western Interstate Commission For Higher Education <http://www.wiche.edu>

People

- | | | | |
|-----|-------------------|---|------------------------------|
| 1. | Tim Gasper | Winona State University | Tgaspar@winona.msus.edu |
| 2. | Sue Hyndman | Minnesota State Colleges and Universities | Hyndman@ins.hcc.mnscu.edu |
| 3. | Joan Kuemper | Minnesota State Colleges and Universities | Jkuemper@wr.mnwest.mnscu.edu |
| 4. | Trish Schrom | | Patricia@mail.ff.cc.mn.us |
| 5. | Ellie Slette | Century College | e.slette@century.mnscu.edu |
| 6. | Nancy Meyer | South Central Technical College | Nancym@mail.sctc.mnscu.edu |
| 7. | Deb Filer | Northland Community and Technical College | Filer@nctc.mnscu.edu |
| 8. | Jeralyn Jargo | Minnesota State Colleges and Universities | Jeralyn.Jargo@so.mnscu.edu |
| 9. | Kristin Juliar | Minnesota State Colleges and Universities | kristin.juliar@mnsu.edu |
| 10. | Mary Dee McEvoy | | Marydee.mcevoy@so.mnscu.edu |
| 11. | Mary Rothchild | Minnesota State Colleges and Universities | Mary.Rothchild@so.mnscu.edu |
| 12. | Jane Foote | Minneapolis Community and Technical College | footeja@mctc.mnscu.edu |
| 13. | Geraldine Bednash | American Association of Colleges of Nursing | Pbednash@aacn.nche.edu |
| 14. | Linda Berlin | American Association of Colleges of Nursing | Lberlin@aacn.nche.edu |

- | | | | |
|-----|-------------------|---|------------------------|
| 15. | Annette Debisette | Health Resources and
Services Administration | Adebisette@hrsa.gov |
| 16. | Tim Henderson | National Conference of State
Legislators | Tim.henderson@ncsl.org |
| 17. | Donna English | Health Resources and
Services Administration | Denglish@hrsa.gov |
| 18. | Carol Larson | Minnesota State Colleges and
Universities | Carol.larson@mnsu.edu |

Literature

1. Study on Cost of Nursing Education Part II Cost of Basic Baccalaureate and Associate Degree Programs National League for Nursing 10 Columbus Circle, New York, N.Y. 10019 1965
2. Pfefferkom B, Rovetta CA: Administrative Cost Analysis for Nursing Service and Nursing Education. Chicago, The American hospital Association and the National League for Nursing, 1965
3. National Academy of Science, Institute of Medicine: Cost of Education in the Health Professions: Report of a Study, Parts I and II. Washington, D.C., National Academy Press 1974
4. Brown EJ: Analyzing the Cost of Baccalaureate Nursing Education-Comparing and Analyzing Expenditure Factors in Nursing Education, New York NLN, 1982
5. Lyons JL: Analyzing the Cost of Baccalaureate Nursing Education- The Components of an Instructional Program. New York, NLN. 1982
6. Halonen RJ, Fitzgerald J. Simmon K: Measuring the costs of clinical education. J Allied Health 7:192-198, 1978
7. Ridgeway, Sharon Ph.D., RN: Assessment of a Nursing Science Program proposal
8. Coffman Janet: Medicate Financing for Nursing Education UCSF Center for the Health Professions April 26, 1999
9. Fiscal Year 2000 Unit Cost Report Illinois Public Community Colleges, March 2001
10. Graduate Medical Education and Public Policy A Primer HRSA Bureau of Health Professions December 2000
11. Instructional Cost Study Minnesota State Colleges and Universities FY 2000
<http://www.budget.mnsu.edu>