

COMMUNITY-RELATED ISSUES

Implementing a Community Education Program on Stroke for Health Care Providers and Consumers

KAREN RICHARDSON-NASSIF¹, ROBERT SWARTZ² & MILDRED REARDON³

¹Department of Family Practice, ²Northeast Area Health Education Center and ³Office of Primary Care, University of Vermont, Burlington, VT, USA

ABSTRACT *Stroke remains a leading killer and cause of disability in the United States. The incidence of stroke appears to be increasing while new advances in the management of stroke continue to emerge. These realities emphasize the need to communicate advances to health care providers and consumers. However, educating health care providers and consumers in rural states is often difficult due to dispersed geographic distribution and lack of resources. This project, utilizing teleconferencing technology, brought an educational program on stroke management for providers and consumers into rural communities. Community hospitals, with teleconferencing capability, were identified throughout Vermont. Community providers and consumers were invited to participate in educational sessions using a variety of marketing methodologies. A multidisciplinary team designed two curricula (one for providers and one for health care consumers) on the management of stroke. A total of 211 health care professionals and 122 consumers participated in the program. Education session evaluations suggested that the program either met or exceeded participants' expectations for the majority of programs. This project demonstrated that academic centers can provide quality continuing medical education for their rural communities using teleconferencing technology. Experience with this program suggests that there are three key elements for success: adequate planning time, communication on multiple levels, and strong marketing strategies.*

KEYWORDS *Community education, stroke education, implementation, provider education.*

Address for correspondence: Karen Richardson-Nassif, PhD, Department of Family Practice, 235 Rowell, University of Vermont, Burlington, VT 05405, USA. Tel: +1 (802) 656-4315. Fax: +1 (802) 656-3353. E-mail: Karen.Richardson-Nassif@uvm.edu

Introduction

Stroke remains one of the world's leading killers and the leading cause of disability in the United States (Becker, 1997; Oddone *et al.*, 2000). The incidence of stroke appears to be increasing, despite continued declines in the rates of heart disease and cancer (Shuaib & Boyle, 1994; Bonita & Beaglehole, 1996). One-third of stroke victims die in the year following their episode and many of these deaths are related to the secondary sequelae of stroke, including immobility and infection. New understanding of the pathophysiology of stroke and new advances in the management of stroke continue to emerge (Awad *et al.*, 1999; DeKeyser *et al.*, 1999; Schretzman, 1999). Therefore, it is critical to communicate these advances in the understanding of and treatments of stroke to health care providers and consumers.

Educating community health care providers and consumers in rural states is often challenging. There are geographical barriers (distance, terrain, and lack of adequate roads) and lack of resources. Indeed, Vermont is one of the most rural states within the United States (Zhang *et al.*, 1998). The state is divided by a mountain range, has severe and long winters, only two major highways, one academic medical center (not centrally located) and many underserved health care provider communities. These conditions make it very difficult for health providers who do not have time nor access to travel to receive continuing medical education.

However, new technologies, such as teleconferencing, have made education of rural health care providers (Levine & Gorman, 1999) and consumers within their own communities easier. By utilizing this technology, educational didactics and discussions can take place at any site that has teleconferencing capability. Teleconferencing requires that a site has a large screen computer or television, a dedicated transmission line, a rural site person responsible for setting up the communication, and people at the "home" site responsible for transmitting the conference.

Using this technology, a rural community based education program was developed to convey new advances in what is known about stroke, its treatment and rehabilitation. The educational sessions were open to all health care providers and consumers within the central and northeastern regions of Vermont.

Methods

Curriculum

A group of multidisciplinary experts was convened to identify appropriate educational topics and design a strategic plan for implementation of this community education program. The group included nurses, physical therapists, neurologists, neurosurgeons, rehabilitation providers, primary care practi-

tioners and a representative from the community wellness group associated with the local academic medical center. After the curriculum was outlined and assigned to the appropriate people for development, a marketing plan was designed.

Marketing

The marketing plan included sending letters, posters and brochure information to hospitals, home health agencies and public health offices' Continuing Medical Education/Continuing Education Units (CME/CEU) directors (Group A) 3 months before the program began. A professional brochure and cover letter were designed and sent to each physician, physician assistant, nurse practitioner, nurse, nursing home administrator, hospital and health system administrator, physical therapist, dietitian, and social worker in the region within 4 to 6 weeks of the program. Brochures and posters of the events were sent to Group A, 3 weeks prior to the program. Press releases were sent to each of the local newspapers. Personal phone calls were also used to contact community leaders to encourage participation in the program.

To encourage participation from the general public, the marketing strategy was modified slightly. There were no individual mailings. Broad public announcements were produced as well as news flyers, newspaper ads, posters and press releases.

Sites

Five distance learning sites were identified throughout the central and northeastern regions of Vermont. Four of these sites were at community hospitals and the fifth site was a Technical College. All five sites had appropriate telephone lines, computers, space, personnel and willingness to participate. A key component to implementing this type of program is that these sites had computerized technology that received and broadcasted transmissions from their site to a central location, instantaneously.

Sessions

Three educational sessions were held for health care providers under the title, *Stroke... Today and Tomorrow*. The individual sessions were: (1) *The Neurophysiology of Stroke* (2) *Primary Prevention, Acute Stroke Therapy and Current Research*, and (3) *Stroke Rehabilitation*. The consumer program, which was modified to contain less technical information, also included: (1) *Stroke—The Brain Attack*, (2) *Prevention and Current Research*, and (3) *Stroke Rehabilitation*.

Five sites with teleconferencing capability broadcasted the six programs. Each site had a trained facilitator and the capability to communicate with the other sites. State of the art equipment allowed the presenters to see up to five audiences simultaneously, while the audiences were able to see, hear and talk to the presenters. Facilitators, one at each site, had step-by-step guides for

facilitating the session with clear goals and procedures. Educational materials, including all slides and reference information, were given to each participant prior to the initiation of each session. For the consumer presentations, each community site had a facilitator and a health care professional available to help answer questions or to help frame questions to post to the presenter.

Results

Attendance for the sessions is shown in Tables 1 and 2.

A total of 18 physicians, 63 nurses (Licensed Practical Nurses, Registered Nurses and Nurse Practitioners), and 78 other health professionals (physical therapists, dietitians, nursing home administrators and medical/nursing students) attended the sessions. Consumer participants came from 31 Vermont communities and 5 New Hampshire communities.

Each participant was asked to complete an evaluation form prior to leaving the educational sessions. The majority of participants stated on their evaluation forms that the program either exceeded or far exceeded their expectations. Other general comments to improve the telemedicine programs are included in Table 3.

Conclusions

This program demonstrated that community teleconferencing programs will attract both health care providers and health care consumers. The majority of comments on the evaluation forms noted that the programs exceeded or far

Table 1. Number of health professionals participating in each educational session

Program	No. of attendees
The neurophysiology of stroke	100
Primary prevention, acute stroke therapy and current research	54
Stroke rehabilitation	57

Table 2. Number of consumers participating in each educational session

Program	No. of attendees
Stroke—the brain attack	46
Prevention and current research	42
Stroke rehabilitation	34

Table 3. Suggestions for improvement of educational sessions

 Comments from evaluation forms

- Larger television monitors at the rural sites
 - More flexible time at the beginning and end of each presentation for questions
 - Handouts should match the presenter's talk as closely as possible
 - Locate the microphones in a central position, and have extremely sensitive microphones
-

exceeded the participants' expectations. Participants also noted that they would like to have other programs utilizing this type of technology to bring educational opportunities into their communities. Additional suggested topics for teleconferencing included diabetes, multiple sclerosis, ethics in health care, dementia/Alzheimer's and coronary artery disease.

However, implementation of this type of project is not simple. Several important criteria must be incorporated to ensure a successful program. The instantaneous telecommunication ability of the sites was a necessity for this program to ensure that community participants felt like they were included in the programs. Communication between the faculty and the staff presenting the program is essential. One lesson learned was to have the program slides reviewed centrally, printed and available at each site during the sessions. Having slides available significantly facilitated the participants' engagement in these sessions. It was critical to have site-specific coordinators and facilitators help with the technical and the logistical aspects of these programs to ensure that the program worked well. These site-associated people were also able to troubleshoot problems as they occurred which minimized program disruptions. With printed goals and objectives, all sites were able to participate equally and to receive a standardized program. Communication with the site coordinators and facilitators after each program allowed necessary feedback to evaluate and modify programs as necessary.

Marketing was also critical to ensuring a successful program. Multiple methods and timed release of announcements were used to ensure participation. It was necessary to send announcements and reminders directly to providers and also send brochures and posters to various locations throughout the communities. For the consumer series, advertisements were run in local newspapers and on local radio stations.

The success of this community education program has opened doors for future collaborations between community and academic physicians. Additional teleconferencing programs were requested and are in development. This project demonstrates that this technology is one method to enhance communication between rural populations and academic medical centers and was a well-received method of providing health education.

Acknowledgements

The authors would like to acknowledge financial support for this project from the Merck Foundation and the Area Health Education Centers of Vermont.

References

- AWAD, I.A., FAYAD, P. & ABDYKRAYF, S.I. (1999). Protocols and critical pathways for stroke care. *Clinical Neurosurgery*, 45, 86–100.
- BECKER, R.C. (1997). Incidence of stroke may be on the rise. *Stroke*, 28, 1657–1659.
- BONITA, R. & BEAGLEHOLE, R. (1996). The enigma of the decline in stroke deaths in the Unites States: the search for an explanation. *Stroke*, 27, 3770–3772.
- DEKEYSER, J., SULTER, G., LANGEDIJK, M., ELTIG, J.W. & VAN DER NAALT, J. (1999). Management of acute ischaemic stroke. *Acta Clinica Belgium*, 54, 302–305.
- LEVINE, S.R. & GORMAN, M. (1999). "Telestroke": the application of telemedicine for Stroke. *Stroke*, 30, 464–469.
- ODDONE, E., BRASS, L.M., BOOSS, J., GOLDSTEIN, L., ALLEY, L., HORNER, R., ROSEN, A. & KAPLAN, L. (2000). Quality Enhancement Research Initiative in stroke: prevention, treatment, and rehabilitation. *Medical Care*, 38, I92–I104.
- SCHRETZMAN, D. (1999). Acute ischemic stroke. *Nurse Practitioner*, 24, 71–71.
- SHUAIB, A. & BOYLE, C. (1994). Stroke in the elderly. *Current Opinion in Neurology*, 7, 41–47.
- ZHANG, W., BOWMAN, A. & MUELLER, K.J. (1998). Rural/urban definitions: alternatives and numbers by state. *Nebraska Center for Rural Health Research, Project Report*, 98–1.