

An Innovative Distance Education Programme for Hospital Managers

SARA VARGHESE

Coordinator, Continuing Medical Education, Christian Medical College, Vellore, India

B.M. PULIMOOD

Director, Christian Medical College, Vellore, India

M.C. SENGUTTAVAN

Tutor Guide, Continuing Medical Education, Christian Medical College, Vellore, India

We continue to be asked whether or not distance mode of education can take care of areas like medicine, engineering, sciences and technology. Obviously, the question is partly born of a bias and partly a result of general ignorance regarding the application of distance education methodologies. Distance education can not only take care of various sub-sectors with the domain of medical education, but also promote collaborative teaching which we had not heard of till recently.

This paper touches upon both these themes — how distance education methodology may make significant contributions in bringing in innovative programmes in various sectors of medical education and how collaborations may be effected to the satisfaction of all the concerned.

1. THE CONTEXT

This is a need based training programme in the health care sector based on an innovative distance education model developed through the collaborative efforts of three well known training institutions.

1.1 The Mission Statement

The "mission" statement of the Christian Medical College (CMC), Vellore clearly indicates the importance of an integrated, value based education in the health care sector with participation and support for its programme from outside agencies. Based on this mission statement, a consortium agreement between Tulane University of New Orleans, USA, Birla Institute of Technology and Science (BITS), Pilani in Rajasthan, and CMC, Vellore, was signed in 1992. Prior to this there were meetings to explore the possibility of collaboration. The agreement was finalised within the consortium mission statement, its objectives and functions being contained within the operative procedures and bylaws.

1.2 Historical Perspectives on Distance Education

The acceptance and practice of the philosophy of distance education in the non-health care sector is strong and is growing nationally and internationally. However, in the health care sector it has made its impact only in some of the developed countries such as Canada and Australia. It was only in the 80s that DE for instruction in Health Care became significant in the developing world. The following are a few instances of the application of distance learning to health care:

- Distance learning for family physicians, nurses of various categories in Australia and Texas (USA)
- The problem based approach in distance education in Kenya, Tanzania, Sudan etc through Wellcome Tropical Institute
- Need based health care courses in the Philippines, Thailand, China, etc.
- Medical education courses offered by Dundee University, Scotland, in Dentistry, for general practitioners, and in health management.

A study of current literature (see references and notes) indicates distance education courses in computers for nurses, courses for rural workers on health related problems, distance learning in general practice to undergraduate students, use of audio teleconferencing for nursing education, inter-university community health nursing through distance education, the 'electronic' extra mural course in epidemiology and medical statistics.

1.3 The Growth of the Consortium

- * Need identification for a health care programme through distance education was undertaken in 1987 by sending out questionnaires to nearly 100 mission hospitals. The need and the demand were recognised.
- * Two initial pilot programmes were conducted and a CMC certificate was given in 1989 and 1990 to those who successfully completed the courses.

- * The postgraduate diploma in hospital administration was offered by CMC in collaboration with Tulane University in 1991. Subsequently, an M.Phil. programme was introduced in 1992.
- * Present M.Phil programme: It was realized that the academic credibility of the programme was not sufficient and that the calibre of the faculty input had to be strengthened. This concern led to collaboration with BITS, Pilani, besides extending its domain in relation to Tulane.
- * BITS, Pilani, a well known deemed university, is already offering innovative distance education programmes in many subjects including management, engineering, etc. Collaboration with BITS enhanced the academic credibility of CMC programmes.
- * Tulane center is well known for its health systems management courses and has well qualified staff in this area. The spin off to all the centers is that sharing knowledge and experiences with a highly motivated and experienced group of learners provides varied and rich learning experience to the faculty. High demands on the faculty also enhances their motivation. Collaboration with Tulane has enhanced the quality of faculty input in managerial skills.
- * CMC, Vellore is a well known teaching hospital with a total of 1700 hospital beds, over 3100 out patients, 80 different courses and nearly 1250 students. The contact sessions are held here, where the basic infrastructure for the health care system is available.

Thus the expertise, resources and strengths of each institution are pooled together to achieve a common goal.

1.4 The Challenge and the Need

The curriculum for the MBBS and postgraduate training in India does not give any input in managerial training for doctors. Hence, the doctors who become managers over the years suffer from a very large lacunae in their training when they assume the responsibility of high level leadership in the management of hospitals, medical colleges, research institutions and government health bodies. Though the National Institute of Family Welfare, Medical Council of India, and WHO, in various forums, have indicated the need for managerial training, no formal courses have been introduced in India so far. And this challenge of improving managerial skills of senior hospital managers has been accepted by the Consortium and efforts are afoot to meet it adequately. (Tables 1 and 2 present relevant data from the Government of India, 1991).

Table 1 : The 1991 data regarding the health manpower in India

1. Doctors	3,59,635
2. Dentists	9,796
3. Nurses	2,45,405
4. Allied health professionals	2,31,386

Item 4 includes pharmacy personnel, lab technicians and radiographers. A large number in 1, 2 and 3 are health care personnel needing managerial skills which are not formally offered in the curriculum except as a small component in nursing courses. The training centers in India with academically credible quality training for the hospital managers are few, though many non-academic short term training programmes are available. For the educational spiral to be complete an evaluation component is vital. This is lacking in the short term non-academic programmes.

Table 2 : Health Care Facilities

1. Hospital	Public		Private/Volume	
	No.	Beds	No.	Beds
a) General	3,380	322,056	3,481	111,037
b) Special	265	11,011	973	12,060
c) Others	569	69,118	935	46,278
TOTAL	4,214	402,185	5,389	169,375
2. Dispensaries		29,189		
3. CHCs and PHCs		23,997		
4. Sub-Centers		130,983		
5. Indian system hospitals		1,844		
TOTAL 2-5		186,013		

For a total of 571,560 hospital beds in 9603 hospitals and 186,013 other health care facilities the trained manager figure is not known. However, tables 1 and 2 indicate a presumed health care managerial need in the country today. Training such a large number of hospital managers for the many health care institutions in the country is a stupendous task. The only cost effective way to at least partially achieve this goal is to adopt innovative distance education programmes.

2 INPUTS FROM THE CONSORTIUM — PREVIOUS EXPERIENCES AND PRESENT COLLABORATION

CMC and BITS already have reasonable experience in distance education programmes comprising various courses. Moreover, Tulane has already launched health systems management courses with well structured curricula. Based on the principles of distance education, a modified curriculum for an M.Phil. programme was designed and launched by CMC, Vellore, utilizing the expertise of all the three centers.

A contact programme of 36 days, in 2 semesters, at CMC is mandatory for the participants, and the faculty from all the 3 centers participate. Concepts are sharpened, experiences shared, and some sensitization to attitudes and skills does occur consequent upon which the learners become better health care managers. At the end of the second semester the courses are over.

Hand-outs, distance education modules and other learning resource materials from all the 3 centers form part of the package for the learning process. At the end of 2 semesters (one year) a candidate is ready for a dissertation with

guidance from his/her own center. A mentor for each at his/her own center is mandatory so that the learner may overcome the problems which might be caused by the distance mode of education. On prior approval, any of the courses can be substituted by some other relevant course.

2.1 Some Experiences from CMC, Vellore

Table 3 : Demands for the Course

Courses	Enquiries	Applica-tions recd	Selec-ted	Joined	Drop-outs
1	29	9	9	4	-
2	152	78	20	12	1
PG Diploma	322*	53**	21	15	6
M.Phil	200	80	20	16	-
Post M.Phil	200	49***	25	22	-
Total above	903	269	95	69	7

*This includes enquiries for the next cycle also.

** Does not include late applications.

*** For the M.Phil. courses the accurate data is not indicated, since the enquiries come to both the Indian centres but the processing is done at Pilani.

Tables 3 and 4 clearly indicate that there is an increasing demand for the course. It is taking shape as a need based programme which has academic credibility in India and abroad. For those aspiring to obtain further training, Tulane offers certain facilities, whereby the M.Phil. truly acquires a global touch.

Table 4 : Data about the Hospital Managers' Course

	Certificate		P.G. Diploma 1991-92	M.Phil.		Total (%)
	88-89	89-90		1992-93	1993-94	
Govt/Public Sector/Army	0	8	8	8	11	35 (50.7)
Pvt/Corporate Sector/Voluntary Orgn.	0	2	6	7	7	22 (31.9)
Mission	4	2	1	1	4	12 (17.4)
TOTAL	4	12	15	16	22	69

Table 4 shows that the students selected for various courses are from different sectors of health care; as a result the interaction during the contact sessions became truly multi-sectoral. Since the major role is played by the public sector, it is shown reasonable consideration in terms of the admission policy — nearly 51% places go to the public sector.

Table 5 : Sex Ratio and the Qualifications with Numbers and %

	Previous batches*	1993-94 M.Phil	Total
Number of students	47	22	69
Male	43 (91.5%)	16 (72.7%)	
Female	4 (8.5%)	6 (27.3%)	
MBBS	40 (85.1%)	10 (45.4%)	
PG (MD/Diploma)	6 (12.8%)	8 (36.4%)	
Superspeciality	1 (2.1%)	-	
Non-medical	-	4 (18.2%)	

* all programmes put together

Women applicants have risen from 8.5% to 27.3%. The table also shows that though initially the demand was predominantly from only MBBS doctors (85%), there is now a shift in this and entrants from postgraduates in medicine have risen from 13% to over 36%. Moreover, in 1993-94 a beginning has been made in selecting other professionals working in the area of health care (18% out of the 22 selected). Of the four, two are MBAs, one a chartered accountant, and one a nurse with M.Sc.

Table 6 : Age Distribution among the Participants

Age Group	Previous participants*	Present Participants	Total
Number of students	47	22	69
21 - 30	1 (2.1%)	1 (4.5%)	2 (2.9%)
31 - 40	22 (46.8%)	10 (45.5%)	32 (46.4%)
41 - 50	21 (44.7%)	9 (40.9%)	30 (43.5%)
51 - 60	3 (6.4%)	2 (9.1%)	5 (7.2%)

* all programmes put together

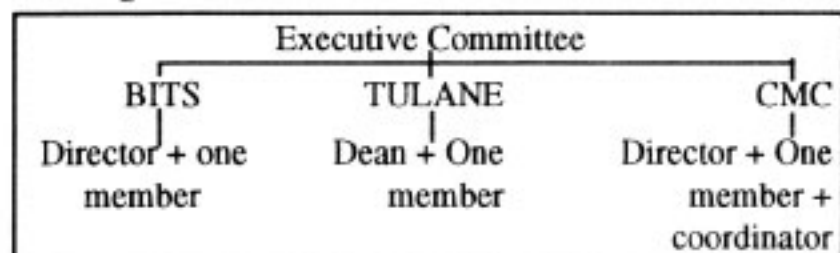
Table 6 indicates that nearly 90% belong to the 31-51 age group. This is because the selection committee tries to choose applicants who are sponsored by an organization and those who are actually engaged in some type of administration.

Table 7 : Statewise Distribution of Participants

States	No. (%)
Tamil Nadu	21 (30.4)
Andhra Pradesh	11 (15.9)
Karnataka	7 (10.1)
Uttar Pradesh	5 (7.3)
Kerala	5 (7.3)
Rajasthan	3 (4.4)
Maharashtra	3 (4.4)
West Bengal	3 (4.4)
Haryana	2 (2.9)
Orissa	2 (2.9)
Goa	1 (1.4)
Delhi	1 (1.4)
Jammu & Kashmir	1 (1.4)
Army & Airforce	4 (5.8)
TOTAL	69 (100.0)

The above table indicates that the admission for the course is from a number of states with a greater demand from the southern states of Tamil Nadu, Andhra Pradesh, Karnataka and Kerala (63.7%); this is not surprising since the course was started from CMC which is in Tamil Nadu. However, a demand from other states is certainly emerging. Based on the trends in demand the consortium has plans for incorporating other centers in India.

2.2 Organizational Structure of the Consortium



The teaching staff involved in the programme come from all the centers.

2.3 Infrastructure for the Programme

This includes all the basic facilities of CMC. The contact classes are held in the Department of Continuing Medical Education, CMC, Vellore, with a total space of 2500 square feet; it has audio video facilities also. All the relevant medical and non-medical facilities of the organization are utilized. BITS has already got the infrastructure for its distance learning programmes, which is available for this programme too.

3. THE EDUCATION PROCESS

Based on the initial need identification, the programme has been developed taking into consideration some aspects of Tulane academic and administrative requirements together with the Indian needs. The curriculum is flexible and is modified periodically in response to the feedback from the learners and the faculty involved.

3.1 Faculty and Contact Programmes

Table 8 : Team of Faculty for one Contact Programme

	BITS	Tulane	CMC	Others	Total
Number	3	1	26	2	32

Of these, 23 are non-medical professionals, experts in their own fields, and 9 medical doctors, who hold administrative posts at CMC and other places, with wide practical training in the respective course areas.

Contact sessions are arranged for all the 10 courses. Each course has separate handouts with the objectives, contents, references and details of the evaluation component clearly stated. Modules are prepared by both BITS and CMC; the faculty input of Tulane is predominantly in the use of face-to-face teaching-learning methodologies. Many of the current books in health care management are also donated by Tulane since many are not available in India.

3.2 Teaching Learning Methods :

Various methods are utilised, with stress on learner oriented strategies such as sharing of experiences. This 'sharing' is an

important component of the contact sessions since the peer group and the faculty gain rich learning experiences from this interaction.

Table 9 : Teaching-Learning Methods Used

- * Lectures/discussions — different types
- * Self learning modules/discussions
- * Case studies
- * Work Study
- * Role plays
- * Seminars
- * On-site visits
- * Brain storming
- * Videos/discussion
- * Retreat
- * Symposia
- * Games
- * Self learning and presentation through given/displayed articles

3.3 Evaluation :

This involves the learner, the course and the faculty:

- * Pre/post tests — these indicate to the learner and the trainer the degree of learning that takes places at different stages. They are a motivating factor for the learning process, and constitute a part of an informal learning activity.
- * Short, daily evaluation, for the learner, based on the previous day's content. End-of-day daily evaluation of the course is also done.
- * Informal interaction occurs during the whole course, and is a good evaluation tool.
- * End-of-the-programme brain storming pertaining to the problems encountered during the course also is used — a powerful tool for evaluation, especially in a highly motivated adult group like the one CMC teaches.
- * Each semester culminates in a comprehensive exam conducted at different centers throughout India. Both open book and closed-book examinations are in practice. Assignments complement the process, and these can be either of the on-campus type or the off-campus type or a combination of both.

This evaluation data is fed into the computer and the information is given to the faculty and to the Directors of the 3 institutions for purposes of detailed discussions during the consortium and executive meetings. This in-built mechanism in our planning process is still in its infancy, and hence there are still many problems to be rectified.

4. THE COSTING

The costing of the complete programme has still not been completed. However, some aspects are given below in relation to one contact programme, together with an approximate costing of others. Two students out of 22 had scholar-

ships and hence did not pay the fees. The fees is split between BITS and CMC.

Income : Students' fees — 20 Students x 3500 Rupees per student divided between 2 institutions comes to Rs.35,000 for each institution

Expenses of one contact programme in Rupees:

Xeroxing	3,350
Cyclostyling	950
Transport	4,770
On site visits/retreat	2,700
Faculty Expenditure	3,370
Stationery, telephone, fax, postage etc.	2,300
TOTAL	17,440

Capital Non-recurring Expenditure in Rupees

Building	5,87,405
Equipment	1,38,547
Furniture	63,827
Learning resource materials (Videos, audios, books)	55,550
Miscellaneous	10,000
TOTAL	8,55,329

The faculty time has not been costed. Moreover, the faculty travel expenditure of Tulane and BITS has not been costed, since this at present, is considered a free input from the institutions concerned. The initial cost of advertisement and selection process has not been included either.

Recurring costs per annum

Two staff members	Rs.34,200
One part-time staff member	Rs. 7,200
TOTAL	Rs.41,400

5. EDUCATIONAL OUTCOME

The parameters for examination of the educational outcome include the students' performance as indicated in the evaluation component and the pre/post tests. All the 15 participants of the postgraduate diploma course passed. One of our previous learners has converted a nearly collapsing

institution into a viable mission hospital in Bangalore. The first M.Phil. batch would be graduating only in May 1993. To maintain contact with the institution some of the participants become alumni thereof. The alumni and the ongoing batch receive newsletters consisting of review articles, participants' forum, quizzes, etc. This constitutes the follow-up support given by the institution to the students who have passed out. It could be a useful method to measure the outcome of the educational process.

6. FUTURE CHALLENGES

The future outcome and the impact on the hospitals and the health care of the country is at present an intangible commodity which can be assessed only in the future.

- * To meet the large scale educational requirements of hospital managers at various levels is a gigantic challenge to meet for which integration of various disciplines, various sectors, social dynamics and other innovations is vital.
- * Utilizing a variety of communication and computer technologies and coordinating them for quality education through integration of the Government and non-governmental sectors could lead to a truly collaborative effort in this area of education.
- * This could be a model for any programme that aims at regular, quality education for larger numbers. Based on this model a global training programme of high quality and value based education becomes feasible, especially for the health care managers in the developing world. Similar projects need to come up to break down the resistance of teachers, administrators and policy makers to innovations in the area of medical education.
- * Whether this could be a model to be expanded for the country as a whole is a vision which might have practical value.

7. SUMMARY

This is a preliminary study for a new distance education programme in the health care sector, for hospital managers, based on a consortium agreement between 3 well known centers — two in India and one in the United States of America. Based on the principles of academic audit, some of the academic and administrative aspects are looked into for improvement and growth of the whole programme. A SWOT analysis is being conducted for future strategic planning, to improve upon what is being done and achieved currently.

REFERENCES AND NOTES

1. "Problem based learning in distance education : a first exploration in continuing medical education", *Medical Education* : 1992 Sep; 26(5); p. 389-401.
2. "Appropriate training for maternal health and the attributes of the trainer", *International Journal of Gynaecology and Obstetrics*; 1992 Jun; 38 Suppl; p 49-54.
3. "A graduate diploma in family medicine by distance education" (Comment) *Medical Journal*; 1992 Aug 3; 156 (3); p. 178-81
"Reflections of a distance education facilitator" *Nurse Education Today*; 1992 Jun; 12(3); p. 182-91.
4. "Distance Learning in a local setting : a structured learning course for the introduction of general practice to undergraduate students", *Medical Technology*; 1991; 13(4); p. 353-61
5. "Inter-University collaboration in the development of a distance education course in community health nursing", *Journal of Nursing Education*; 1989 Sep; 28(7); p. 325-7.
6. "An 'electronic' extramural course in epidemiology and medical statistics", *International Journal of Epidemiology*; 1989 Mar; 18(1); p. 275-9
7. Personal communication with University of Dundee.