

PRE-HOSPITAL CARDIAC MONITORING PROJECT



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FINAL PROGRESS REPORT

PRE-HOSPITAL CARDIAC MONITORING PROJECT

JULY 1, 1974 to JUNE 30, 1977

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WESTERN MARYLAND CHAPTER, INC.
DIRECTOR OF PROJECT



AMERICAN HEART ASSOCIATION — WESTERN MARYLAND CHAPTER

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 WESTERN MARYLAND CHAPTER, INC.
 (Allegany, Garrett, and Washington County)
 PRE-HOSPITAL CARDIAC MONITORING PROJECT

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INTRODUCTION

The "Pre-Hospital Cardiac Monitoring Project" was approved by DHEW September 1, 1974 and FY-01 money was made available to the American Heart Association-Western Maryland Chapter. The Project period was July 1, 1974 through June 30, 1977.

Total Project funds

		<u>ARC</u>	<u>APPLICANT</u>
1974-75	FY-01	\$ 26,250.00	\$ 2,752.00
1975-76	FY-02	92,835.00	17,276.00
1976-77	FY-03	<u>88,570.00</u>	<u>36,320.00</u>
	TOTAL	<u>\$207,655.00</u>	<u>\$ 56,348.00</u>

Of the total \$207,655 ARC funds, the Project expended \$183,657.

Total Project funds expended 1974-77

Personnel Services	\$ 46,066.04
Equipment	100,996.08
Communications	4,660.29
Office Supplies	2,521.31
Travel	3,432.57
Trainee Costs	<u>25,980.71</u>
Total	<u>\$183,657.00</u>

48,146.50
231,853.50

+ in kind & Matching Funds.
48,146.50 = 231,853.50
21

PURPOSE

The first purpose of the Project was the education and training of Emergency Medical Technicians to advance them to Cardiac Rescue Technicians (CRT) where they may effectively monitor cardiac and trauma patients, administer drug therapy in the field and stabilize the patient under medical supervision through telemetry.

The second purpose of the Project was to make available on an 80/20 basis the telemetry equipment needed at the hospital bases and the mobile rescue squads.

Total commitment of cooperation was obtained from hospitals, rescue squads, medical societies, health departments, and local educational institutions to assist during the Project years and also to take over financially at the conclusion of our three years.

OBJECTIVES

1. Upgrade education and training of all medical and paramedical personnel engaged in the treatment of cardiac or trauma patients.

OBJECTIVES (con't.)

- 2. Prevent life-threatening arrhythmias of cardiac patients by early stabilization through EKG monitoring and drug therapy at the scene.

METHOD PROCEDURE

- 1. Upon initiation of the Project, all efforts were directed at establishing the training courses for EMT-A's to advance them to Cardiac Rescue Technicians - paramedic level - and establishing in-hospital training for all three years.
- 2. During the second and third year we placed appropriate telemetry equipment at hospital base stations and in the rescue vehicles.
- 3. Public Education via mass media was aimed at the use and entry into the emergency medical system.
- 4. Instituted Advanced Life Support training for physicians through seminars and one-to-one training.

ACCOMPLISHMENTS

A. TRAINING 1974-77

Classes were held in Allegany-Garrett County at the Memorial Hospital and Sacred Heart Hospital in Cumberland.

Classes in Washington County were held at the Washington County Hospital in Hagerstown.

1. ALLEGANY GARRETT COUNTY COURSES

Class I October 14, 1974

Registered		<u>55</u>	
Did Not Start	7		
Dropped Out	11		
Tested	<u>37</u>		
	55	55	

Total Tested 37 Passed 27 - Failed 10

Class II September 15, 1975

Registered		25	
Audits		<u>14</u>	
Did Not Start	5		
Dropped Out	4		
Did Not Test	6		
Tested	<u>24</u>		
	39	39	

Total Tested 24 Passed 16 - Failed 8

Class III March 8, 1976

Registered		<u>32</u>	
Did Not Start	2		
Dropped Out	14		
Tested	<u>16</u>		
	32	32	

Total Tested 16, Passed 7 - Failed 9

Class IV September 13, 1976

Registered		27	
Audits		<u>6</u>	
Did Not Start	1		
Dropped Out	7		
Did Not Test	7		
Tested	<u>18</u>		
	33	33	

Total Tested 18, Passed 15 - Failed 3

Class V February 7, 1977

Registered		<u>17</u>	
Did Not Start	0		
Dropped Out	5		
Did Not Test	6		
Tested	<u>6</u>		
	17	17	

Total Tested 6, Passed 4 - Failed 2

2. WASHINGTON COUNTY COURSES

Class I February 17, 1975

Registered		<u>49</u>	
Did Not Start	5		
Dropped Out	7		
Did Not Test	4		
Tested	<u>33</u>		
	49	49	

Total Tested 33, Passed 26 - Failed 7

Class II October 18, 1975

Registered		27	
Did Not Start	2		
Dropped Out	7		
Did Not Test	1		
Tested	<u>17</u>		
	27	27	

Total Tested 27, Passed 9 - Failed 8

Class III September 18, 1976

Registered		<u>26</u>	
Did Not Start	3		
Dropped Out	7		
Did Not Test	3		
Tested	<u>13</u>		
	26	26	

Total Tested 13 Passed 11 - Failed 2

Class IV March 5, 1977

Registered		<u>24</u>	
Did Not Start	1		
Dropped Out	3		
Did Not Test	3		
Tested	<u>17</u>		
	24	24	

Total Tested 17 Passed 12 - Failed 5

3. FINAL COMPUTATION OF CRT's TRAINED

		<u>Tested</u>	<u>Failed</u>	<u>Certified</u>
I	Allegany-Garrett	37	10	27
	Washington	33	7	26
II	Allegany-Garrett	24	8	16
	Washington	17	8	9
III	Allegany-Garrett	16	9	7
	Washington	13	2	11
IV	Allegany-Garrett	18	3	15
	Washington	17	5	12
V	Allegany-Garrett	<u>6</u>	<u>2</u>	<u>4</u>
	TOTAL	181	54	127
		(100%)	(29.8%)	(70.2%)

NOTES:

1. Along with the 127 certified CRT's in Allegany County coming directly from the classes, we also certified 12 others who had previous training but who come under our in-hospital and certification requirements to make a total of 139 CRT's at the end of the Project (6 were from nearby West Virginia).
2. We had an appointed Committee to review all applications for the CRT Training. Each year we used a different method of evaluating the applicants from accepting the "Maryland State CRT Standards" requirements to an elaborate full day of pre-testing in EMT training, CPR training, aptitude and one-to-one interview. The pass/fail ratio was not improved by the elaborate evaluation.

We realize the first year we apparently attracted the most highly motivated and capable volunteers and we also realize the training was very difficult and automatically weeded out those who were not ready.

Of the many who dropped out, we feel certain they will try again as they see the system in operation.

3. We developed CRT Protocol for Allegany-Garrett County and Washington County (attachment #1 and #2).
4. The training of CRT's has been turned over to Region I EMS (MIEMS) and Region II EMS (MIEMS). Continuing CRT training is being conducted by the Regions in cooperation with the Allegany Community College and the Hagerstown Junior College.
5. The Heart Association turned over the following training equipment to the Regions:
 - All Manuals and Booklets
 - 1 Arrhythmia Resusci-Anne
 - 1 Resusci-Anne
 - 1 Infusion Trainer
 - 1 Intra-Muscular Hip
 - 1 Intubation Manikin (adult)
 - 1 Esophageal Airway
 - 1 Torso Skin Kit
6. We use the State of Maryland CRT patch and identification wallet cards.
7. Recertification workshops were held at six-month intervals during the three-year training period. The recertification may now be acquired by actual activity on the squad and if that is not sufficient, the workshops will be continued as a method of future recertification by the EMS Regions.
8. Total training costs were \$25,980.71. This included all training supplies, manikins, and faculty fees.

Rates

Physicians \$25 per hour
CRT Instructors . . . \$10 per hour . . .

A total of nine classes was held with each course consisting of 100 hours plus.

A total of \$186.91 was invested in each student for teaching supplies and faculty.

ACCOMPLISHMENTS

A. EQUIPMENT

The Project supplied the following:

1. Tower: 2-GH₂ System Tower
General Electric Company
Maryland EMS \$13,397.00
2. 5 Hospitals: Mennen-Greatbatch EMS Receiving
Console and Mennen-Greatbatch
Special Acoustic Receiving
Console 80% \$25,203.88

The hospitals are:

Sacred Heart Hospital, Cumberland, Maryland
Memorial Hospital, Cumberland, Maryland
Frostburg Community Hospital, Frostburg, Maryland
Garrett County Memorial Hospital, Oakland, Maryland
Washington County Hospital, Hagerstown, Maryland

3. 13 Ambulances and Rescue Squads were equipped
with:
LifePak 5 Monitors and Defibrillator, Charger
Modulator, and Cable 80% \$61,413.05

The rescue squads are:

LaVale Rescue Squad	2
CARES, Inc.	1
Tri-Towns Rescue Squad	2
Northern Garrett County Rescue Squad	2
Southern Garrett County Rescue Squad	1
Frostburg Area Ambulance Service	1
Community Rescue Squad	2
Williamsport Rescue Squad	1
Clear Spring Rescue Squad	<u>1</u>
Total	13

4. 1 Remote Demodulator and Cable for
use in rural Garrett County \$ 462.15
 5. 1 Bell and Howell Projector
(Heart Association) \$ 520.00
- TOTAL EQUIPMENT EXPENDITURES \$100,996.08

NOTES:

1. All hospital and rescue squad equipment was transferred to same with written agreement (attachments #3-#21).
2. Bell and Howell Projector will be retained by the Heart Association to continue our public and professional education in the field of prevention, treatment, and rehabilitation of the cardiac.
3. The Project supplied 29 drug kits -- enough for each squad plus extras that remain at the Drug Department of the hospital for restocking and resealing following each run.
4. Each squad was supplied with startup supplies of EKG paper and electrodes.

SUMMARY

The American Heart Association-Western Maryland Chapter is pleased to report the "Pre-Hospital Telemetry Project" is fully compatible with the State of Maryland emergency medical system.

The system went operational on September 12, 1977, and we used a phase-in operation rather than giving all out responsibility to the CRT at one time. The first phase was the starting of IV's. Drug therapy and defibrillating will follow as soon as the Maryland State Communications System is in full service.

The Heart Association, in cooperation with Sacred Heart Hospital and the Medical Society Visiting Scientist program, have instituted Advanced Life Support for all physicians. The response has been outstanding. The course is offered over 12 sessions under certified Advanced Life Support Faculty of the American Heart Association-Maryland Affiliate.

The CRT training has been taken over by Region I and Region II and CRT courses were started in September, 1977.

We feel we accomplished our goals and objectives falling short by the total finally certified due to the unpredictable variances of the ability to become a highly skilled and trained technician on a volunteer basis.

In order to stimulate the CRT's to think professionally and act ethically, we held a formal graduation service at which time we asked Sister Margaret James, Administrator of Sacred Heart Hospital, Cumberland, to speak to the students and we attach her presentation "The Patient, The Paramedic, and Ethics" (attachment #22).

The Project experienced some changing and moving of funds from equipment and training categories, however, this was appropriately applied for and approved. The change was simply due to the knowledge we gained from year to year.

SUMMARY (con't.)

The Heart Association wishes to commend the following for the volunteer services or facilities:

Sacred Heart Hospital, Cumberland, Maryland
Memorial Hospital, Cumberland, Maryland
Washington County Hospital, Hagerstown, Maryland
Garrett County Memorial Hospital, Oakland, Maryland
Frostburg Community Hospital, Frostburg, Maryland
All Rescue Squads
American Heart Association-Western Maryland Chapter, Inc.
Executive and Full Board
The Project Medical Advisory Board
All Rescue Squad volunteers

Without the great volunteers this project could not have been completed.

11/30/77