CORONARY CARE UNIT COMMITTEE

Minutes of meeting June 20, 1967

Present: Dr. Richard Ebert, McCollum Brasfield, Dr. Gerald Lee, Dr. Naip Tuna, Dr. Richard Varco, John Westerman, Dr. Yang Wang

Dr. Ebert explained the purpose of the meeting is to begin work on the Coronary Care Unit now that money has been guaranteed by the Variety Club. Because we are already far behind in our knowledge, it is important to begin now to move as rapidly as possible. This field is rapidly changing and may require several versions of the unit to keep up to date. We should develop facilities, train staff, attract patients, and apply for a federal grant.

Dr. Varco pointed out there is talent at this school which other centers lack, but up to now we have lacked the unit to put this talent to work. Examples would be computer technique and surgical support mechanisms.

In an effort to alleviate delays, Dr. Ebert urged bottlenecks be anticipated. Requisitions for major equipment should be submitted at once. Dr. Wang said equipment needs had been projected previously, but these projections would have to be updated. Drs. Tuna, Winchell and Wang will work with Dr. Varco to outline specific equipment, companies and prices, and will start machinery to get these items. Dr. Tuna stated final details on equipment would depend on the floor plan selected.

Dr. Varco suggested setting up the ideal situation, first listing the basics and then the options in order of importance. This would serve as a scale on which to apply funds. Dr. Wang said basics would include the requirements for federal grant application.

The committee agreed on the importance of having a project director assigned in Plant Services. The urgency of the program must be impressed upon him. Dr. Wang questioned whether Plant Services would do the best job in the shortest time. Dr. Ebert expressed his preference for an outside contractor, reasoning the outside contractor would complete the job more quickly. Mr. Westerman said the channels to start this job are to submit specifications for room and equipment needs to Mr. Roy Lund. Plant Services will make a decision as to whether they can handle the job themselves.

Dr. Varco suggested setting up a flow chart to outline relationships and Mr. Brasfield agreed to do this. Secondly, Dr. Varco suggested a motivated person be assigned as a ramrod to keep progress moving.

Dr. Tuna reported they had not yet decided whether to use digital lines. The committee agreed Mr. Gene Johnson should meet with this committee. It was also suggested that Mrs. Elstad meet with the group to coordinate nursing services.

The committee will meet regularly at two week intervals to report progress.

Respectfully submitted,
Marie Mattison
Research Assistant

CORONARY CARE UNIT FLOWCHART

	June 20, 1967	July	August	September	October	November	December	January	February...September'68
Physical Remodelling		Visit to St. Joseph's and other Mr. Baker appointed Project Engineer (Supervised by K. Karlburg) General Floor Plan Approved	Detail Plan Approved	Contracts Bids					
Computer		Definition of 300-400 sq.ft. Needed							
Equipment		After general floor plan is approved, at least two manufacturers ——————>							
Personnel		Nurse Training Program 1. Monitor Care							

Minutes of meeting July 11, 1967

Present: McCollum Brasfield, Mildred Elstad, Eugene Johnson, Gerald Lee, Help Tuna, Richard Varco, Paul Winchell, Yang Wang

NEXT MEETING: Tuesday, July 25, 1967, 1:30 p.m. Heart Hospital Conference Room

Mr. Brasfield presented a flowchart for the CCU planning and suggested it serve as an agenda. Mr. Westerman and Mr. Brasfield have visited with Mr. Soderberg of Plant Services and have attempted to impress upon them the priority of this project. Mr. Robert Baker, an architect, has been assigned project engineer. Mr. Caron Carlberg, Mr. Baker and Mr. Wally Petrykowki have visited the CCU at St. Joseph's Hospital and on Thursday will visit the unit at St. Barnabas. The committee urged that Plant Services personnel be made aware that this unit will be different from those in existence at other hospitals. Mr. Brasfield said more of the general floor plan should be available in 7-10 days for further consideration by the committee. After approval of this plan and there is a detailed floor plan of mechanical and electrical blueprints, the contract for bids will be let out. The bid duration is 20-30 days. Dr. Varco suggested the bid duration and the time anticipated for completion of the project be shown on the flowchart.

Dr. Wang suggested that he, Dr. Tuna and Dr. Winchell meet with Mr. Baker to discuss these plans. Such a discussion might serve to clarify committee thinking of what is wanted. Mr. Brasfield agreed to arrange the meeting this week.

The committee discussed some of the advantages of one large patient room versus an enclave arrangement. The latter would be more desirable. The research beds will have much personnel activity, which may be disturbing to other patients. The committee recognized the need to minimize such disturbance while still allowing human contact for all patients.

Dr. Varco urged that a committee decision be made in the near future regarding the type of arrangement and partitions desired. Soon the committee should be able to tell Plant Services what will go into the 300-400 sq.ft. of space, and requirements for wall monitoring, patient viewing, etc. Dr. Varco feels that these will be arbitrary decisions since there is no right or wrong. He asked for use of imagination in studying materials such as colored glass in the partitions, moveable partitions, glass which allows illumination without glare, provision for controlling illumination at the central nursing desk, etc. Dr. Varco suggested committee members communicate with people at other units to find out what can be done, such as what is available in monitor equipment. He suggested Dr. Peter Frommer would be a good source.

Mr. Johnson explained the computer planning progress to date and the problem of finding a room in the Mayo building for a connection room. Dr. Varco offered to help him in obtaining a room. Mr. Johnson felt adding the CCU to the computer cable would be a cinch and the cost of wiring and connecting would be minimal since much of the equipment is already available through other projects. He inquired about the possibility of Variety Club funding for finishing the cable connections, and estimated the cost would be less than $10,000. Dr. Varco felt this would be a possibility.

Mr. Johnson urged the committee to explore all available equipment and to allow for cable flexibility for future development. He suggested more expensive equipment units could be plugged in so that a unit would not be needed for each bed and less cable would be needed.

The committee agreed the CCU should aim to open on a service basis first and to begin recruiting patients as soon as possible. Although the CCU could be in operation without the computer equipment, Mr. Johnson feels the equipment should be available as early as possible to allow time for adjustments.

Dr. Lee asked Mrs. Elstad what nursing problems might arise in a soundproof room. Visual control would be most desirable, Mrs. Elstad thought. She said "beepers" are disturbing to patients and might be eliminated. Mrs. Elstad asked for a person or a small group who would be willing to discuss with her the training program for nurses. She sees the need to begin training now so that the nurses are ready when the unit opens. A cardiovascular nurse clinician is scheduled to arrive in September. The CCU training program for nurses at Saint Joseph's Hospital is being investigated and nurses will be allowed time to attend. However, Mrs. Elstad also wishes to outline content for training nurses here.

Dr. Varco asked whether the nurses association has made decisions regarding the responsibilities of a nurse in a CCU. Such decisions should not wait for national ruling, Mrs. Elstad thought. These considerations should arise through the training of our nurses for CCU work, and would be decisions made within the hospital.

The next committee meeting will be July 25.

Respectfully submitted,

Marie Mattison
Research Assistant

CORONARY CARE UNIT COMMITTEE

Minutes of meeting July 25, 1967

Present: McCollum Brasfield, Richard Ebert, Mildred Elstad, Richard Varco, Yang Wang.

Next Meeting: Tuesday, August 8, 1967, 1:30 p.m., Heart Hospital Conference Room

Mr. Brasfield presented two floor plans drawn up by Plant Services on the basis of requests such as adequate working space around the patient beds, rooms made private by means other than curtains, and visual control for nurses. Both plans meet Federal requirements. The possibility of using old fire escape area was rejected by the fire marshall.

The committee was especially interested in Plan B, and liked its flexibility and the central nursing station. By nature of the unit size, the patients would be close to the nursing station. The committee liked the idea of soundproof, moveable and sliding glass partitions which would allow flexibility in room size. The possibility of having a large room used as such or divided by partitions was appealing. Having too many permanent partitions is to be avoided.

Dr. Wang commented that too many windows would limit wall space for built in equipment. Dr. Varco suggested equipment be built in below windows, and Dr. Ebert said windows could be closed up if more space is needed. Mrs. Elstad asked that one window per patient be left for aesthetic reasons. The committee suggested the nursing desk be built all the way around the existing stationary post, and that the walls be leaded for fluoroscopic equipment. Moveable commodes are preferable to permanent facilities by each patient bed. Mrs. Elstad said attractive commodes are available.

Mrs. Elstad urged that nursing storage be near the unit entrance so that service people from C.S.S., pharmacy and linen departments need not enter the unit. She wishes to study the plans further to consider storage space in the patient rooms. The committee felt moveable equipment could also be stored in patient rooms. Mr. Brasfield will find out whether the existing corridor space can be used for storage.

Dr. Wang asked whether sleeping space for a doctor would be included in the plan. The committee concurred that a moveable partition could be set up in the event sleeping space is needed.

Committee members thought Plan B was a good start which could be improved as the unit develops. The members wish to study the plan further and Dr. Ebert urged that absent committee members see the plan this week. Mr. Brasfield offered to make copies of the plan. He suggested that equipment manufacturers study the final plan to outline placement possibilities for their equipment.

Mrs. Histed reported the continuing education program attended by 60 operating engineers from Minnesota and other states has chosen the coronary care unit as their project for design and cost estimates. It is hoped new ideas may grow out of this. The choice of this project also is evidence of Plant Services' having interest in development of the coronary care unit.

The council has expressed much interest for the planning [illegible] Part I of the architectural plans, and urged Plant Services proceed with detailed plans. Mr. Bresfield explained once the detailed plans are accepted by the committee, the decision will be made as to what contractor does the construction.

Plant Services representatives sought Committee reaction to their speaking informally with NEC regarding the acceptability of a coronary care unit smaller than the suggested 300 sq. ft. Dr. Wang pointed out there is considerable competition for support among units and the unit with 300 sq. ft. will be of more interest to NEC than the smaller unit. The Committee felt this would be a waste of time and urged that the detailed plan for 300 sq. ft. be developed as soon as possible.

Once the detailed plans are prepared, Mr. Bresfield suggests the equipment manufacturers be called in for suggestions on equipment placement. Dr. Tenn said the equipment committee had narrowed their choice of manufacturers to two: Sanborn and Electronics for Medicine. Mr. Bresfield suggested the plans be shared with both companies for their recommendations.

Dr. Johnson announced the Biodata Processing has been practicing with the computer equipment and getting details of electronic problems solved, so that the computer will be ready to go once installed in the coronary care unit. He suggested the computer lines might run through the unit floor and into the walls. Mrs. Histed pointed out the placement of outlets will limit the flexibility of bed location. Dr. Johnson told of his difficulties in getting permission to use the existing empty conduits for computer lines, which would be considerably more economical than installing new conduits. Dr. Short offered his help if needed to obtain permission to use the existing conduits.

Questions were raised regarding air conditioning and radiology equipment. Mr. Bresfield assured the Committee both items are being considered in the planning by Plant Services. Mrs. Histed expressed her wish to talk further about the placement of storage space in the unit. At Dr. Wang's suggestion, Mr. Bresfield will meet separately with nursing, computer and medical personnel to discuss specific problems and ideas.

[illegible] CARE UNIT [illegible]

Minutes of Meeting August 29, 1967

Present: McCollum Brasfield, Caron Carlberg, Richard Ebert, Mildred Elstad, Eugene Johnson, Naip Tuna, Richard Varco, Yang Wang, John Westerman, Paul Winchell

NEXT MEETING: Tuesday, September 12, 1967, 1:30 p.m., Heart Hospital Conference Room

The committee considered the latest CCU floor plan which had been distributed to committee members prior to this meeting. Mr. Carlberg explained the area had been definitely defined by the fire marshall. There was discussion regarding the existing corridor and door used as a fire exit. Because one cannot enter the unit to use this door as an exit, the door must be outside the unit. The committee feels it would be acceptable to have storage area and staff lavatory outside the unit and therefore the corridor will remain unchanged.

At previous meetings the suggestion was made to build the nurses' desk completely around the existing column. Mr. Carlberg pointed out the nursing station area is extremely limited. Because of the moveable glass partitions between the rooms and the nursing station, the area is potentially larger.

Partitions between patient rooms are to be half glass and half porcelain. Partitions between the patient rooms and the nursing station are to be all glass.

The committee agreed on the importance of using every means to dampen the sound. This might include acoustical tile in the ceiling, soft tile floor, drapes at the windows. Draperies might also be available to close off the patient room while doctors are working.

It was pointed out the only was to remove deceased patients is through Station 201.

Because of the amount of equipment planned to be built in around the patient's bed, it was considered advisable to block off all but one window in each room. Mr. Carlberg suggested highly specialized lighting be used such as incandescent lighting with dimmer switches.

Dr. Wang asked about clerical and sleeping space for doctors. The committee felt space could be found in a patient's room for a small desk, and at the beginning one of the empty rooms could be used for sleeping. This will be sufficient until actual use of the unit determines what will be needed. It is felt there is no room to all specifically for a doctor's sleeping area.

Mr. Westerman asked whether this plan could be presented at the September 11 meeting of the VCHH board. The committee agreed this plan is acceptable and plans should proceed. Mr. Carlberg will provide a tentative cost estimate. Equipment manufacturers should be contacted for their recommendations. Mr. Carlberg also suggested the plan be submitted to the chief architect at NIH.

Dr. Johnson announced plans are proceeding for connecting cables to the building. He urged the committee to plan the design of connections in the rooms to be as flexible as possible. He pointed out this type of equipment quickly becomes obsolete and the committee should allow for easy removal and installation of cables by using heating conduits. As the equipment becomes more sophisticated, less space is required and because of this Dr. Johnson feels the planned unit will have extra space. The committee agreed good use could be found for any additional space.

CORONARY CARE UNIT COMMITTEE

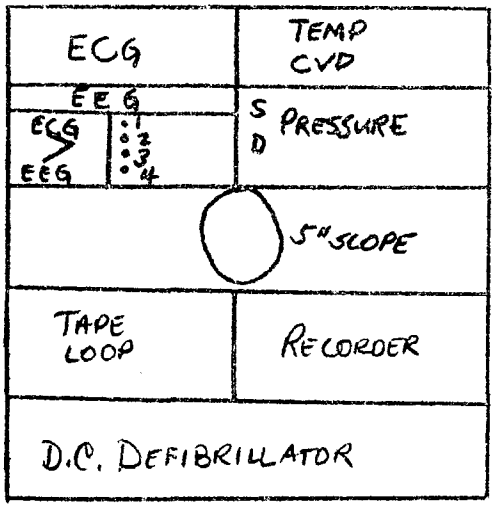
Minutes of meeting September 12, 1967

Present: McCollum Brasfield, Mildred Elstad, Eugene Johnson, Yang Wang, Paul Winchell

NEXT MEETING: Tuesday, September 26, 1967, 1:30 p.m., Heart Hospital Conference Room

Mr. Brasfield reported that at its board meeting last night the Variety Club Heart Hospital appropriated an additional $25,000 for construction of the Coronary Care Unit, bringing the total amount available to $50,000. Original estimates of the cost of the CCU were $50,000-$75,000. Dr. Wang said he hoped the committee had not given the VCHH Board the impression that $75,000 was the limit of the amount of money that might be needed, since costs continue to rise. The VCHH Board appears very anxious to support this project.

September, 1968, was given to the Board as the opening date of the CCU. Plant Services will be given a construction deadline of Spring, 1968. Mr. Brasfield feels the best guess for beginning with patients in the CCU is sometime between spring and fall, 1968.



Dr. Winchell presented the above diagram as the basic monitoring unit for each bed. Allowing such a unit for each of four beds, plus a multichannel scope at the nurses' desk, the cost of such equipment would be approximately $32,000. As additional equipment is added, the price rises quickly.

Dr. Winchell reported Dr. Tuna had called Peter Frommer at NIH, who was careful not to endorse any brand of equipment. It is felt there is not a great deal of choice in equipment, and two manufacturers will be considered: Sanborn and Electronics for Medicine. In the discussion of equipment, Dr. Winchell sees the need for a director of the unit to be assigned to coordinate the research activities proposed and the type of equipment needed.

The committee discussed the advisability of equipping just two research beds, with other beds being equipped as the committee gains experience with the unit. Mrs. Elstad pointed out the more similar the monitoring units, the easier it is to administer and the more flexible the unit becomes. There was also dis-

cussion regarding the definition of "basic" equipment. Dr. Wang felt the ECG, scope and defibrillator could not be eliminated. Mrs. Elstad asked whether respiration might also be monitored, since the suggested monitoring board eliminates the need for the nurse to measure anything except respiration rate. The need for the inclusion of the EEG was questioned. Dr. Johnson sees this as a big investment with little potential. The committee felt those present were not in a position to make this decision. Portable fluroscopic equipment was discussed. The unit should be designed to allow for the use of fluroscopic equipment, but due to the price and the limited need for such equipment, it probably will not be included at the initial stages.

Mr. Brasfield said once the final floor plan had been approved by the committee, Plant Services could present a cost estimate within two weeks. Plant Services decides to construct the unit or to let a construction contract to an outside contractor by the deadline set for completion and the Plant Services construction schedule. Mr. Brasfield said the equipment should be purchased as the actual construction proceeds.

Dr. Johnson urged the committee to begin thinking about data processing personnel. Considering the type of equipment presented as basic, a full time programmer will be needed and such people are in great demand.

Dr. Wang sees the biggest problem as obtaining patients. Many centers have not made application for grant support due to lack of patients. Minnesota will miss the second grant deadline, but should make an effort to apply for a grant at the third opportunity since this may be the last. Mr. Brasfield will check again with Medical Records regarding the number of University Hospitals patients with a diagnosis of myocardial infarction.

Respectfully submitted,

Marie Mattison
Research Assistant

CORONARY CARE UNIT COMMITTEE
MEETING

October 23, 1967

Present: McCollum Brasfield, Richard Ebert,M.D., Mrs. Mildred Elstad, Mr. Eugene Johnson, Dr. Naip Tuna, Dr. Yang Wang, and Dr. Paul Winchell

Next meeting: Tuesday, November 14, 1967, 1:30 H.H. Conf. Room.

Dr. Tuna and Dr. Winchell posed two limitations to a Coronary Care Unit in a teaching hospital. First, the most effective means of salvage would be to have a mobile unit, such as one built into an ambulance, that could go to the patient rather than bringing the patient to the unit. Secondly, referral hospitals do not get coronary cases with the same frequency as private or general hospitals. People in the age group most susceptible to coronaries have their own physicians whom they prefer to contact in emergency situations. Private physicians bring patients to private hospitals and are likely to continue doing so since treating coronaries constitutes the most lucrative facet of private practice. Should the situation not lend itself to summoning the family physician, the patient is most likely to be sent by ambulance to the closest hospital, with a large emergency room.

Dr. Wang inquired whether or not Mr. Brasfield had determined the incidence of myocardiac infarctions in University Hospitals within the past year. Mr. Brasfield replied that it was difficult to determine if patients were appropriate candidates. The librarians had pulled the records, but the question remains how many of these were primary infarctions. The Committee decided the best way to determine precisely how many would qualify would be to divide the cases between Drs. Wang, Tuna and Winchell at the next meeting.

Mr. Brasfield distributed Plant Services most recent drawings of the Coronary Care Unit. Plant Services were now ready to sit down with equipment manufacturers for specifications on wiring.

Dr. Tuna pointed out that the Committee had not come to a decision on a brand of equipment. Electronics for Medicine is presently being investigated but they had submitted an extraordinarily sloppy bid and Dr. Tuna seriously questioned how useful they could be. Dr. Wang said he was concerned about Sanborn, since very few of the hospitals he had contacted currently used Sanborn and even fewer recommended them. Dr. Tuna said the Committee had investigated the field and found that only Statham, Electronics for Medicine and Sanborn could provide all the necessary equipment. Dr. Wang wondered why it was necessary to get all the equipment from one company. Dr. Tuna felt that the package becomes increasingly complex, more difficult to assemble and maintain, with components from different sources. Dr. Wang felt simplicity should not be the overriding consideration, quality should be the primary objective. An effort should be made to get the instruments each company makes best. Dr. Ebert suggested Dr. Winchell act as chairman of a committee to resolve differences of opinion and arrive at recommendations and that Dr. Burchell also be added to the committee of three. ~~existing~~ Recommendations are expected by the middle of January 1968.

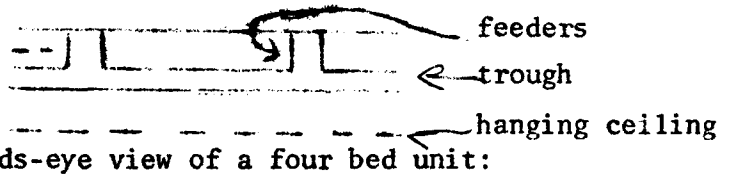
Mr. Brasfield felt Plant Services ought to interview representatives from at least two or three companies. They should plan to design the wiring and number of channels with enough flexibility to accommodate any company the Committee finally selects. Dr. Wang noted that equipment could be ordered 60 to

90 days days in advance whereas construction of the unit would take considerably longer. Mr. Brasfield estimated construction at six months from the time it commenced. Dr. Wang continued to say that consequently it was not crucial to make a decision immediately. Dr. Ebert thought the committee should begin to think in terms of specific companies before too long. Dr. Johnson recommended that the Plant Services design be independent of detailed equipment specifications and adaptable to any.

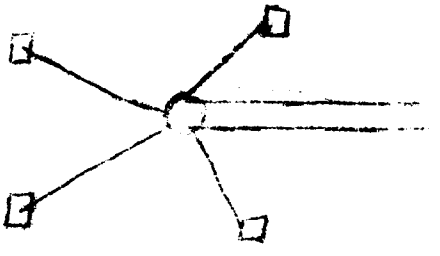
Mr. Brasfield called the committee's attention to the questions asked by Plant Services. Who was to use the lavatory facilities, the staff or patients and what equipment was to be in the utility room? The committee agreed the lavatory facilities were for staff and Mrs. Elstad will define space usage in the utility room.

Dr. Wang asked if there were to be conduits from patient rooms to nursing stations and from beds to equipment. The committee agreed on the necessity of conduits from beds to nursing stations. Dr. Tuna briefly described the organization of equipment produced by Stathum Company. A single wire went from wall outlet to juction box by the bed. From the bed box the wires were partitioned as required. Dr. Wang said that in practice there was not requirement for moveable junction boxes. A wire of varying length could serve instead, allowing the junction box to be secured in the wall. This would be feasible so long as there was no necessity to move the bed and there appeared to be no really forseeable requirement to do so.

Dr. Johnson said the committee need only to determine the conduit necessary. With a 4 x 4 box running to the computer there would be enough carrying space to handle whatever specific equipment the committee finally decided upon. Flexibility could be built in by suspending a hanging ceiling one foot from the top of a nine foot room. The ceiling would conceal a central trough running the length of the room with feeders strategically placed to service patient beds



Birds-eye view of a four bed unit:



It would be necessary to specify only the size of the channels and the means of getting down the wall from the ceiling to the bed. The hanging ceiling provides for flexibility since it is easy to remove the ceiling panels to change the wiring. Dr. Ebert suggested that Dr. Johnson get together with the architect.

Dr. Tuna expressed concern about integrating the connections to the computer. What precisely would get to the computer?

Mrs. Elstad inquired who was to maintain the equipment once the unit is functioning. Although the question may seem premature, the committee should keep in mind that nurses for the units will be highly trained in patient care and should not be expected to spend their time caring for equipment.

Dr. Wang admitted that this raised a fundamental question in regards to plans for staffing the unit. He felt the committee was still somewhat unrealistic about staffing demands and that someone versed in bioengineering was required. Dr. Johnson added that this was a problem common to the Hospital as a whole. There should be an electronics equipment service for the College of Medical Sciences.

db.

from the number of University Hospitals patients, Dr. Varco stated that nowhere in the Twin Cities area were there facilities comparable to those under consideration for the proposed unit. Dr. Tuma added that the unit would sell itself. Once the facilities are operating, patient pressure will bring the referrals.

Dr. Wang mentioned that the time limit for acquiring federal money may expire before the unit opens. Dr. Varco replied that should this unfortunately be the case, it should not effect our determination to get the unit underway. If need be, other mechanisms will be found to finance it.

Respectfully submitted,

Karen Levin
Research Assistant

CORONARY CARE UNIT COMMITTEE

Minutes of the meeting November 28, 1967

Present: McCollum Brasfield, Richard Ebert, Mildred Elstad, Eugene Johnson, Nhap Tuna, Yang Wang, Paul Winchell

Guests: Mr. Charles Self, Plant Services Project Supervisor and Mr. Robert Hudalla, Mechanical Engineer

NEXT MEETING: TUESDAY, DECEMBER 12, 1967 AT 1:30 P.M., HEART HOSPITAL CONFERENCE ROOM.

Dr. Tuna introduced the issue of whether to have the heating and cooling of the Coronary Care Unit separate or tied in with the rest of the Hospitals' already inadequate ventillating system. Mr. Hudalla replied that since the Hospitals facilities in the area were inadequate, the Unit would have to have its own system. Dr. Ebert commented that there would be no requirement for rigid humidity control in the area beyond reasonable comfort. Mr. Hudalla noted that in order to get reasonable comfort it would be necessary to go beyond normal University provisions.

Mrs. Elstad inquired about individual room control for patient comfort, particularly in regard to air conditioning. Dr. Wang commented that this would be difficult to implement considering the Unit's moveable walls and Mr. Hudalla added that it would be difficult to install due to the limited space above the ceiling.

The question of where to install ventillating equipment arose. Messrs. Self and Hudalla had planned to use the room that is now storage for Station 201. However, Mrs. Elstad stressed the great need for space in this area of the Hospitals and suggested the equipment be housed outside the Heart Hospital building since the Unit is ground level. The terrain lends itself to the construction of such a structure; at the northeast end of the building there is an exterior space hidden from public view by a high retaining wall. Mr. Self noted that an outside structure would cost more than converting the storage room. Mrs. Elstad mentioned that housekeeping facilities had already been cut from the Unit and if the storage room were used for equipment, a patient room would have to be taken for storage purposes. Cost of the annex should be compared with the cost of converting the storage room plus the cost of losing a patient room.

Mr. Self said another problem was fitting in duct work, conduits and plumbing above the ceiling and keeping it eight feet high. They had counted on lowering the ceiling of the storage room for the ventillating equipment and having air distribution come through perforated ceiling tile. Mr. Hudalla mentioned that this would solve the problem of overlapping air ducts and electrical conduits so the ceiling could be kept at eight feet. The even filtration of air would provide both heating and cooling. Mrs. Elstad asked if it were possible to still do this with an exterior unit.

Dr. Ebert commented that the real question was not cost but construction time. Mr. Self said a heated enclosure would have to be made around the area to keep the ground from freezing so fittings could be placed beneath the frost line. However, the actual construction of the unit should not take longer than the length of time for remodeling.

Mr. Brasfield asked if getting approval from Messers. Close and Lund might become a problem and delay construction. Mr. Self felt this would not be a problem since the annex would not be a new building but a structure to facilitate the operation of existing facilities. It would be necessary only to determine what would be involved in terms of size before asking for approval.

Mr. Brasfield mentioned that it would be necessary to close one window in each room on the south side for space for conduits. Mr. Rudalis had several questions for the Committee. Would there have to be special filtration of air? The Committee felt ordinary dust control would be adequate. Would the unit require one oxygen and two vaccuum outlets as Fairview had? Mrs. Elstad answered that one of each would be enough. Was one toilet facility adequate? Yes, the facility was for staff use since patients would require moveable commodes. What facilities would be required in the utility room? Mrs. Elstad reviewed the plans developed in April. All patient needs--bed pan, basin, extra linen--would be stored behind the patient bed in the shelf space beneath the monitor defibrillator. The bed would have to be about twelve inches from the wall but a good deal of storage space would be saved. What did not fit in the bed unit would go in the utility room.

Mr. Self asked about lighting. The Committee decided two kinds of light were necessary: incadescent light with rheostat control and spots placed strategically in the ceiling above the patient bed. Mrs. Elstad made an appeal on the behalf of the patient for attractive fixtures.

Mr. Brasfield stressed the urgency for an estimate from Plant Services. The Variety Club would next meet in December and they required a realistic estimate, although it need not be exact.

Dr. Ebert said Dr. Johnson needed $7,00 to $10,000 for computer equipment for the Unit. Unlike the rest of the equipment, this would take time to order. The $10,000 should be transferred to Dr. Johnson's budget at once. Dr. Wang commented that the estimate was reasonable and the equipment crucial.

Dr. Ebert thanked the gentlemen from Plant Services for attending the meeting.

Respectfully submitted,

Karen Levin
Research Assistant

UNIVERSITY OF Minnesota

UNIVERSITY OF MINNESOTA HOSPITALS • MINNEAPOLIS, MINNESOTA 55455

January 22, 1968

CORONARY CARE UNIT COMMITTEE

Minutes - January 16, 1968

Present: Drs. Howard Burchell, Eugene Johnson, Naip Tuna, Richard Varco, Paul Winchell and Yang Wang, Miss Mary Brambilla, Mrs. Mildred Elstad, Mr. Thomas Jones and Mr. Wally Petrykowski

Guests: Mr. Charles Self, Caron Carlberg and Robert Baker, Plant Services

NEXT MEETING: Tuesday, Jan. 23, 1968, 1:30 H.H. Conf. Room

The architects requested the Committee's assurance that the plans as last submitted are adequate. Mr. Carlberg pointed out that the requirement to meet the specifications for Federal funding resulted in a disproportionate allotment of space to patient areas at the expense of nursing facilities.' As it now stands, the plans provide absolutely minimal facilities. With such an expensive project perhaps it would be better to reconsider the operation of the unit once its completed.

Dr. Wang suggested that the two non-research bed areas might be redesigned for one bed and increased nursing station area. The patient room without a window would be the natural one to eliminate. Dr. Tuna proposed that the windowless room, the utility area and the nursing space be redesigned. Mr. Elstad felt it mandatory to leave the utility room enclosed.

Mr. Carlberg asked if the Committee would consider increasing the size of the 170 sq. ft. room with space from one of the 300 sq. ft. rooms. Although 300 sq. ft. is the minimum area recommended by the Federal government for research patient rooms, Dr. Burchell felt it is more important for the unit to operate well than to meet Federal specifications and not function adequately. The possibilities are deleting one room or making each room smaller.

Mrs. Elstad commented that a three bed unit would require the same number of nurses and would bring the total of beds lost from four to five, decreasing bed-revenue accordingly. The cost of operation of the unit would be substantially more.

Dr. Varco felt the primary consideration is to get the unit underway. The purpose of the unit is to introduce University Hospitals to the treatment of myo-cardiac infarction cases and not to be the ultimate in technological progress.

In response to a request by Dr. Wang, Mr. Carlberg offered to have at least two sketches of alternative ways to distribute space within the unit by Monday, January 22, 1968. Once the design is settled, it should take two to three weeks to develop detailed drawings. While advertizing for bids, the detailed work for mechanical plans can begin. Although the mechanical drawings should not take long to complete, it is difficult to estimate how long it will be before the electrical plans can be started. With luck, the whole process should take about three months and construction can begin in April.

db.

1801.4

UNIVERSITY OF *Minnesota*

DEPARTMENT OF MEDICINE
MAYO MEMORIAL BUILDING • MINNEAPOLIS, MINNESOTA 55455

July 9, 1971

Mr. Tom Jones
Associate Director
University Hospitals

Dear Mr. Jones:

Enclosed is a brief discription of the proposal to extend patient monitoring to beds adjacent to the Coronary Care Unit and with it is an estimate of the cost of providing such a monitoring system. I believe the estimate does not include wiring.

If you have any questions about this, please let me know and I will be happy to discuss them with you.

Sincerely,

C. Paul Winchell, M.D.
Professor of Medicine

CPW/llm

U. OF M. HOSP. DATE: 9/16/71 — UNIT — ATTN. — COPY — JCH, RK X, RT X, KT, JS, DM, OP, FL, KS, PH, CM, RG, JJ, KR, MG, JB, JSL, TS — FILE 0132 X 774 X 740 X — BD

HEALTH SCIENCES CENTER
MEDICAL SCHOOL

U. OF M. HOSP. DATE: 9/16/71 — H.G.S.P., P.P.&D., H.S.-CCCU., H.S.A.E. X, H.I.S.A. X — LERCH, MAIN, FLYNN, C.D.M.

IN REPLY PLEASE REFER TO THIS QUOTE NUMBER: CQ-15949

QUOTE DATE: April 5, 1971

HEWLETT PACKARD
QUOTATION

TO: University of Minnesota
Heart Hospital
Minneapolis, Minnesota 55455

Attn: Arthur From, M.D.

PLEASE MAKE PURCHASE ORDER TO:
HEWLETT-PACKARD COMPANY

- ☐ 25575 Center Ridge Road, Cleveland, Ohio 44145, Telephone 216 835-0300
- ☐ 1120 Morse Road, Columbus, Ohio 43229, Telephone 614-846-1300
- ☐ 3460 South Dixie Drive, Dayton, Ohio 45439, Telephone 513-298-0351
- ☐ 3839 Meadows Drive, Indianapolis, Indiana 46205, Telephone 317-546-4991
- ☐ 11131 Colorado Street, Kansas City, Missouri 64137, Telephone 816-763-8000
- ☐ 2500 Moss Side Boulevard, Monroeville, Penna. 15146, Telephone 412-271-0724
- ☐ 2812 South Brentwood Blvd., St. Louis, Missouri 63144, Telephone 314 962-5000
- ☒ 2459 University Avenue, St. Paul, Minnesota 55114, Telephone 612 645-9461
- ☐ 5500 Howard Street, Skokie, Illinois 60076, Telephone 312 677-0400
- ☐ 24315 Northwestern Highway, Southfield, Michigan 48075, Telephone 313 353-9100

YOUR REFERENCE	TERMS	DUE DATE	QUOTE FIRM FOR
Verbal	Net 30		30 days

ITEM NO.	QUANTITY	DESCRIPTION	APPROX. DELIVERY WEEKS	RECOMMENDED SHIPPING METHOD	FOB POINT	UNIT PRICE	TOTAL
1	4	H-P Model 7802D Defibrillator				1470.00	5880.00
2	4	H-P Model 7805C Signal Delay				900.00	3600.00
3	4	H-P Model 7830A Monitor				1800.00	7200.00
4	4	H-P Model 1500A Electrocardiograph				1075.00	4300.00
5	4	H-P Model 78002A System Core				475.00	1700.00
6	4	H-P Model 07813-60060 Sytlus Centering kit (to update present ECG machines)				12.00	48.00
		TOTAL					22728.00

F.O.B. POINT:

AV - AVONDALE, PA.
BH - BERKELEY HEIGHTS, N.J.
CS - COLORADO SPRINGS, COLO.
CU - CUPERTINO, CALIFORNIA
LL - LOVELAND, COLORADO
MV - MT. VIEW, CALIFORNIA
PA - PALO ALTO, CALIFORNIA
PD - PASADENA, CALIFORNIA
RT - ROCKAWAY TOWNSHIP, N.J.
SC - SANTA CLARA, CALIFORNIA
SD - SAN DIEGO, CALIFORNIA
WM - WALTHAM, MASS.
* OTHER

RECOMMENDED SHIPPING METHOD:

ACP - AIR CONSOLIDATION, AF - AIR FREIGHT, MF - MOTOR FREIGHT, PP - PARCEL POST, REA - RAILWAY EXPRESS, V - VAN.

THIS QUOTATION IS SUBJECT TO THE TERMS AND CONDITIONS ON THE REVERSE SIDE.

iw

HEWLETT-PACKARD COMPANY

BY Gene McCluskey

Gene McCluskey
Medical Field Engineer

PROPOSALS FOR THE EXTENDED CORONARY CARE UNIT PATIENT MONITORING FACILITY

In recent months it has become apparent that a need exists for intensive cardiovascular monitoring in at least three types of patients other than those with acute myocardial infarction. The first type is the post-myocardial infarction patient who has completed his five-day stay in the Coronary Care Unit. Although this patient's risk of a major arrhythmia has dropped at this point, it is still markedly higher than that of the usual hospital patient. Because of this problem many institutions have initiated post-coronary care unit stations where patients can be monitored. We do not have such a capability and can only observe these patients with portable monitoring equipment. Because of the inherent difficulty in adequately observing such monitors, this solution is less than satisfactory. The second type of patient in need of careful monitoring is the one who has had cardiovascular procedure of some risk or cardioversion, especially if the underlying heart disease is severe. The only way we can adequately monitor these patients currently is in our Coronary Care Unit. This is indeed done in selected patients at a considerably increased expense to the patient than necessary. These patients rarely need all the Coronary Care Unit services which are available. The third group of patients in need of such monitoring are those in for arrhythmia diagnosis. These are patients who enter the hospital with undiagnosed arrhythmic problems of a paroxysmal nature and who may need anywhere from three to five days of careful monitoring. It is currently difficult to observe these patients carefully for that period of time at a reasonable expense.

The needs for monitoring in these types of patients have been made clear to me by the medical staff, the cardiovascular surgical staff and the radiologic staff. The latter perform many of the high risk diagnostic procedures on patients.

It is proposed to acquire four more bedside Hewlett-Packard monitoring units consisting of an oscilloscope, a delay tape unit, write-out unit, and a defibrillator and place them in the four rooms most proximal to the CCU on Station 201. These rooms are already wired into the Central CCU monitor desk which has eight unit capability. The current system, however, only allows for the observation of the electrocardiogram on the central monitor oscilloscope. There is no alarm system in the unit to ring when there is some arrhythmia in the patient in one of the peripheral rooms. There is also no way to get an immediate and retrograde record of that arrhythmic problem in these patients.

In the current proposal, the peripheral rooms will have a room alarm and will also generate the standard alarm system in the CCU central monitoring area. This will allow the CCU nurses to immediately go to the patient's bedside and initiate any emergency procedures that are necessary. Since it is anticipated, however, that most of these patients will probably not require emergency resuscitative effort, their day-to-day care will not be the responsibility of the CCU nurses, but rather the 201 nurses as is now the case. Extended discussions with our CCU personnel have indicated that they consider this sort of staffing feasible and indeed is what they attempt to do now although at a great disadvantage because of the lack of an adequate alarm system.

It is apparent that the acquisition of this new equipment (at a relatively low cost) will vastly expand the capability of our Coronary Care Unit facility in respect to caring for patients with myocardial infarctions and other major cardiovascular problems. It will also permit the more active use of such patients in our acute care educational program.