



UNIVERSITY OF MINNESOTA
TWIN CITIES

The University of Minnesota Hospital and Clinic
Harvard Street at East River Road
Minneapolis, Minnesota 55455

**MEETING OF THE
BOARD OF GOVERNORS FINANCE COMMITTEE**
Wednesday, November 18, 1987
12:30 P.M.*
8-106 University Hospital

COMMITTEE MEMBERS

Robert Nickoloff, Chair
Carol Campbell
Edward Ciriacy, M.D.
Robert Dickler
Clifford Fearing
William Krivit, M.D.
Jerry Meilahn
Barbara O'Grady
Vic Vikmanis

*Meeting
Cancelled*

A G E N D A

- | | |
|---|----------------------|
| I. Opening of Meeting and Approval of Minutes of Finance Committee Meeting held 10/28/87 (Approval) pp. 1-5 | Mr. Robert Nickoloff |
| II. October 31, 1987 Year-to-Date Financial Statements (Information)** | Mr. Clifford Fearing |
| III. Magnetic Resonance Imaging Unit II (Endorsement) pp. 6-15 | Mr. Greg Hart |
| IV. Other Business | |

* A buffet lunch will be served at 12:00 Noon in the Board Room


** The Financial Statements will be distributed at the meeting.



UNIVERSITY OF MINNESOTA
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The University of Minnesota Hospital and Clinic
Harvard Street at East River Road
Minneapolis, Minnesota 55455

November 12, 1987

TO: Members, Finance Committee
FROM: Robert Dickler 
Hospital Director
SUBJECT: Magnetic Resonance Imaging (MRI) Project

Mr. Al Dees and Dr. Christopher Kuni presented a proposal for an additional MRI unit for information at both the October Finance and Planning and Development Committee meetings.

We are submitting this proposal for consideration and approval at your November 18th meeting. Please note that we have added a brief section on financing, and are recommending that this project be funded from our reserves.

If you have any additional questions, please don't hesitate to contact me.

RD/kff

Attachment

**Minutes
Meeting of the
Board of Governors Finance Committee
The University of Minnesota Hospital and Clinic
October 28, 1987**

**MEMBERS
PRESENT:** Edward Ciriacy, M.D.
Robert Dickler
Clifford Fearing
William Krivit, M.D.
Robert Nickoloff
Barbara O'Grady
Vic Vikmanis

**MEMBERS
ABSENT:** Carol Campbell
J.E. Meilahn

GUEST: Christopher Kuni, M.D.

STAFF: Al Dees
Kay Fuecker
Greg Hart
Nancy Janda
Nels Larson
Dan Rode

CALL TO ORDER: The meeting of the Finance Committee was called to order by Mr. Robert Nickoloff at 12:17 P.M. in the Board Room (8-106 University Hospital).

MINUTES: A motion was seconded and passed to approve the minutes of the August 26, 1987 meeting of the Finance Committee as written.

**JUNE 30, 1987
YEAR-END
FINANCIAL
STATEMENTS:** Mr. Cliff Fearing reviewed the operations for the period July 1, 1986 through June 30, 1987. Admissions totalled 19,169 compared to 17,694 for the previous year, an increase of 8.3%. Patient days for the year totaled 154,282, up by 8,585 (5.9%) from 145,697 days in 1985-86. The average length of stay declined from 8.3 to 8.1 days. The outpatient visits increased from 224,446 to 248,137, representing a 10.6% increase and an 11.5% increase over 1986-87 estimates. The increase in clinic census occurred in nearly all areas, but most significantly in Surgery, Medicine, Dermatology, Urology and the Emergency Room. Patient care revenue totaled \$238,045,424 and is an increase

of \$39,074,887 (19.6%) over 1985-86. The increase is approximately \$38,781,700 above budget and resulted in an overall favorable variance of 19.5%. The increase in expenditures was approximately \$19,332,200 over budget and resulted in an unfavorable variance of 9.3%. Much of this variance was associated with the increase in demand for patient services. Personnel costs were over budget by nearly \$8,944,000. Expenses and supplies directly related to patient care activities were over budget by more than \$8,861,100. Insurance expenses were nearly \$717,000 below budget. Interest expense was \$4,025,676 under budget. Non-operating revenues totalled \$21,972,361 in 1986-87 and represents an unfavorable variance from budget of \$1,804,239. This shows our lost equity position in Primary Care Network and our share of outstanding liabilities in the form of loan guarantees. The net loss by UMHC for PCN is \$1,134,760. Lastly, Interest earnings were lower than anticipated. Capital expenditures during 1986-87 were \$11,874,700.

**SEPTEMBER 30,
1987 FINANCIAL
STATEMENTS:**

Mr. Fearing reported that admissions for September totaled 1,602 or 107 above a budgeted level of 1,495. The average length of stay was 7.5 days. Patient days totaled 12,216, 422 days under budget. Outpatient clinic visits totaled 21,715 (6.1%) above budget.

The Hospital's Statement of Operations shows total revenues over expense of \$1,585,929 for a favorable variance of \$2,139,228. Patient care charges through September were .5% over budget. Routine revenue was 3.1% under budget and reflected our unfavorable patient day variance. Ancillary revenue was 1.9% above budget and reflected the favorable variance in both admissions and clinic visits. The overall unfavorable variance (0.2%) in operating expenditures relates to increased personnel costs and patient care related costs. Patient accounts receivable totaled \$79,935,999 and represents 106.95 days of revenue outstanding. This increase of .09 days occurred primarily in the BCBSM, Minnesota Medical Assistance, and Minnesota GAMC categories.

**MAGNETIC
RESONANCE
IMAGING UNIT II:**

Mr. Al Dees and Dr. Christopher Kuni, Radiology Department, discussed the current Magnetic Resonance Imaging services and the proposal to purchase a second MRI. Radiology currently staffs 2 full-time shifts five days per week and one shift on Saturday. Approximately 10-12 procedures are referred elsewhere each week due to lack of MRI time available. The Radiology Department proposes the purchase of a 2.0 Tesla Magnetic Resonance Imaging machine. This machine would be used primarily for magnetic resonance imaging, but would be used for spectroscopy as funding is available to pay for the procedures. The proposal includes expanding the current MRI suite by 1,000 square feet of shelled space, the addition of 3.0 FTE radiological technologists and 1.0 FTE secretary. The total estimated installation cost is \$3,600,000, specified as follows: \$2,473,867 for equipment; \$290,000 for shielding; \$171,000 for equipment access; \$66,000 for airconditioning; \$132,000 for architectural fees; and \$468,000 for actual construction.

Mr. Dees noted that this proposal is for discussion only in October, with endorsement sought in November.

**BLUE CROSS BLUE
SHIELD OF MN.
WAIVER OF
DEDUCTIBLE AND
COPAYMENT:**

In August of 1987 the University was informed by the Employee Relations Department of the State of Minnesota that the state would no longer be offering the BCBSM Aware Gold insurance plan as an option to employees for the next insurance year, 10/1/87 to 9/30/88. Since the University is a participant in the state insurance plan this was also applicable to all University employees. The decision by the state to eliminate the Aware Gold option was based on increased premiums for this type of insurance coverage which is a full 100% insurance coverage for all inpatient and outpatient services. The State replaced the Aware Gold insurance with Aware Ltd. which carries a \$680 deductible and co-insurance payment for inpatient hospitalizations. It was the opinion of UMHC management that this change in coverage would have a negative impact on UMHC in that the \$680 cost for admission would be an incentive for employees to drop BCBSM and move to other insurance carriers which either do not permit or restrict admission to UMHC. It was felt this action could be countered by providing an incentive to University employees to use UMHC. Therefore, it was decided to offer to waive the deductible and co-insurance payment to all University employees who chose the Aware Ltd. insurance plan who were subsequently hospitalized at UMHC. This offer was sent in letter form to all University employees in early September.

State officials objected to the University's action and requested that it withdraw its action or leave the state insurance plan and establish its own plan by 12/31/87. Since it is unrealistic to put together a total insurance plan for the University in the time frame provided the University has decided on November 3, 1987 to withdraw the waiver and remain in the state insurance plan. The University is continuing to pursue the development of its own insurance plan and as new details become available they will be shared with the committee.

**CUHCC/COMMUNITY
INDIGENT CARE
COMPARISONS:**

Mr. Greg Hart reported on the progress of a CUHCC replacement facility. UMHC is currently pursuing the possibility of locating the facility in a wing of Mt. Sinai Hospital. This possibility would ensure access by the same patient population. More information will be available on this option after consulting with architects.

Per the Committee's request, a comparison of charity care provided by Twin Cities hospitals was prepared and this comparison indicates that indigent care provided by UMHC is comparable to that of other hospitals in the area. Mr. Dickler noted that at the present time much of the charitable care provided by UMHC is provided to patients from CUHCC. As the Board addresses the issue of replacement facilities for CUHCC, it will also need to address whether our charitable care focus should remain at CUHCC or if it should become part of a larger strategy. These topics will continue to be discussed as the replacement facility issues for CUHCC become more focused.

**HOSPITAL PRICE
COMPARISONS:**

Mr. Greg Hart reviewed the Price Comparison Data from the Council of Hospital Corporations (CHC) 1987 Hospital Price Disclosure report. This report takes similar groups of cases and collects price and charge information for those cases. Charges at UMHC are generally 6-16% higher than the community due to educational costs and types of illnesses. When the educational component is not included, the charges would have been only 6% higher than the other other hospitals surveyed. The report shows that in 1/3 of the cases UMHC charges were less than the average and in approximately 17% of the cases UMHC charges were higher due to the severity of the cases.

Meeting of the Finance Committee
Minutes, October 28, 1987
Page Five

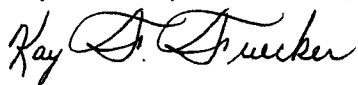
**FIRST QUARTER,
1987-88 BAD
DEBTS:**

Mr. Dan Rode reported the total amount recommended for bad debts for the first quarter of 1987-88 is \$949,327.60 representing 1,602 accounts. Recoveries during the period amounted to \$7,176.28, leaving a net charge-off of \$942,151.32. This amount is 1.45% of gross charges compared to a budgeted level of 1.33%.

The Finance Committee seconded and passed a motion to approve the net bad debt charge-off in the amount of \$942,151.32 for the first quarter of 1987-88 as submitted.

ADJOURNMENT: There being no further business, the Finance Committee adjourned at 2:10 P.M.

Respectfully submitted,



Kay F. Fuecker
Recording Secretary



UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Radiology
Medical School
Box 292 UMHC
420 Delaware Street S.E.
Minneapolis, Minnesota 55455

**PROPOSAL FOR A SECOND MRI FACILITY
UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC**

Department of Radiology
University of Minnesota Hospital and Clinic
October 1987

HEALTH SCIENCES

**PROPOSAL FOR A SECOND MRI FACILITY
UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC**

CURRENT MRI PROGRAM AT UMHC

During the past six months, the Magnetic Resonance Imaging volume has averaged 206 cases per month, or approximately 10 cases each day. Since the average case requires between 60-90 minutes to complete, our current volume requires a 12-14 hour workday. This volume has been obtained without specifically advertising or promoting MR throughout the Hospital. Currently, 6-8 patients each day, or 80%, require imaging of the brain or spine. This has transpired without a strong neurology program. After a new Neurology department chairman is appointed, we anticipate even greater demand for this aspect of MR imaging.

In addition, we have not optimally utilized MR for imaging the abdomen. We anticipate using a major portion of the second MR system's time on the large number of patients with malignancies and cardiovascular diseases presently treated at the University of Minnesota. MR has been shown to be the most effective method for evaluating the liver in patients with suspected malignancies, and currently it has become a very important modality in staging patients with cancers of the kidneys, bladder, prostate and female endocrine system. MR may prove to be the most sensitive modality for evaluating the skeletal system in patients with suspected metastatic disease and it is already the best modality for evaluating tumors of the musculoskeletal system. Many of these studies have not been pursued at this hospital simply due to a lack of capacity on our present system.

The current strength of the magnet (1.0 Tesla) limits types of state-of-the-art procedures which can be performed. By adding a machine with a higher field strength (2.0 Tesla), we will be able to do patients more quickly, improve our imaging of the brain and spinal cord, and begin to develop spectroscopy which cannot be performed on the current unit. By providing these services, we will place the University of Minnesota at the cutting edge of this technology which should improve our image and increase our referrals to the University of Minnesota Hospital.

PROPOSAL

Purchase a computerized MRI Unit with a 2.0 Tesla (20 kilogauss) magnet.

Expand the current MRI suite on the first floor of Unit J by finishing 1,000 square feet of shelled space immediately adjacent.

The estimated cost of this proposal is:

Equipment	\$2,473,867
Construction	<u>1,126,133</u>
	\$3,600,000

BUDGET IMPACT

Staffing Requirements

Acquisition of an additional MRI unit will require an additional 3.0 FTE radiologic technologists and 1.0 FTE secretary to cover one and one-half shifts. Annual salary and fringe benefits for this additional staff are anticipated at \$107,950.

Annual Operating Expenses

Annual marginal operating expenses are projected at \$694,310 and include marginal salaries and fringe benefits (\$107,950), film (\$24,000), cryogenes (\$37,000), magnetic tape (\$22,500), service expenses (\$210,000), general supplies (\$15,000), utilities (\$50,000), interest expense (\$198,696) and funded depreciation shortfall (\$29,164).

Projected Procedure Volumes/Charges

Growth in patient load is anticipated for several reasons. First, increased utilization of MR for non-neurologic disease is now a reality, especially in patients with cardiovascular, hepatic, musculoskeletal and malignant disorders. Second, development of spectroscopy as a non-invasive method of evaluating response of tumors to therapy is extremely applicable in this institution. Finally, ability to accommodate patients on a second system which are now being referred to other MR centers represents a real need.

Accordingly, marginal volume increase resulting from acquisition of a second MRI system is projected at 75% for established MRI procedures and 25% for new spectroscopy procedures. This increase is the result of two marginal sources: (1) additional exam volumes due to increased scheduling of machine time availability; and (2) emergence of new spectroscopy-related exam volumes.

Additional exam volume for established MRI procedures due to new machine time availability will approximate a 75% growth rate in the following areas:

<u>MRI Exam Area</u>	<u>1st Unit 1987-88 Volumes</u>	<u>2nd Unit Annual Volumes</u>	<u>Revised Annual Volumes</u>
Brain	1,622	1,217	2,839
Spinal Cord	539	404	943
Extremities	187	140	327
Myocardium	135	101	236
Pelvis/Hips	123	92	215
Abdomen	91	68	159
Head	43	32	75
Chest	33	25	58
	<u>2,773</u>	<u>2,079</u>	<u>4,852</u>

This represents a marginal volume increase of 2,079 exams, or \$1,351,350 (\$650 per exam) in additional billable revenues.

To complement this increase in established exam volumes, the availability of spectroscopy and chemical shift analysis procedures are projected to result in the following new exam volumes:

<u>Exam Type</u>	<u>2nd Unit Annual Volumes</u>
Brain Spectroscopy	374
Myocardial Spectroscopy	33
Hepatic Spectroscopy	33
Muskulo/Skeletal Spectroscopy	126
Gall Bladder Spectroscopy	33
Renal Spectroscopy	95

This represents a marginal volume increase of 694 exams, or \$902,200 (\$1,300 per exam) in additional billable revenues.

FINANCIAL RECOMMENDATION

Utilize Hospital reserve funds to purchase equipment and to pay construction costs. This project is included in the approved 1987-88 capital budget.

MRI-II FINANCIAL ANALYSIS

Summary

Purchase Price	\$2,473,867
Expected Life	5 years
Annual Depreciation	\$494,773
 Construction Costs	 \$1,126,133
Expected Life	10 years
Annual Depreciation	\$112,613
 Projected Incremental Annual Revenue	 \$2,091,794
Projected Incremental Annual Operating Expense	\$1,301,696
Payback Period	2.58 years

I. Incremental Annual Volume

MRI	2,079
Spectroscopy	694

II. Incremental Annual Revenue

A. Total Charges:

MRI	\$1,351,350
Spectroscopy	\$902,200

B. Net Revenue:

<u>Payer</u>	<u>% Mix</u>	<u>Charges</u>	<u>Reimburse. %</u>	<u>Revenue</u>
Agency	9.6	\$217,980	86.9	\$189,337
BC/AWARE	11.7	\$264,932	88.8	\$235,259
HMOs	3.2	\$ 73,492	85.0	\$ 62,468
Commercial	15.6	\$354,075	100.0	\$354,075
Medicare	15.2	\$344,775	90.2	\$310,987
MA/GAMC	8.5	\$192,575	75.1	\$144,663
Self-Pay	27.5	\$609,517	98.7	\$601,411
Other	8.7	\$196,204	98.7	\$193,594
Total Annual Revenue				\$2,091,794

III. Incremental Annual Operating Expense

Salaries/Fringe Benefits	\$107,950
Maintenance	\$210,000
Depreciation	\$607,386
Supplies	\$148,500
Funded Depr. Shortfall	\$ 29,164
Interest	\$198,696
Total	\$1,301,696

IV. Net Payback Period

Purchase Price/(Incremental Revenue - Incremental Expense + Depreciation Expense) = 2.58 years

ADDENDUM 1

PROPOSAL FOR A SECOND MRI FACILITY UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

INTRODUCTION

CLINICAL BACKGROUND AND HISTORY

In 1984, the University of Minnesota Hospital and Clinic joined over one hundred other health care institutions in providing a new and exciting non-invasive imaging technology to its patients and referring medical staff. Published research continues to indicate that Magnetic Resonance Imaging (MRI) is recognized as a clinically accepted diagnostic tool for certain specialty applications and anatomical images. Developments to date indicate that MRI is the preferred method of imaging the brain, brainstem and spinal cord. MRI images are unobstructed by bone, allowing for viewing of the posterior fossa of the brainstem and improved imaging of the pituitary, plus MRI can image along the sagittal plane providing a clear image of the spinal cord for assessing spinal cord tumors, injury or disease. MRI imaging of the spinal cord makes it the preferred diagnostic tool for back injury or myelopathy including nerve root compression associated with disc disease.

MRI visualization of the pelvis, urinary/bladder, and prostate have also been established as clinically proven diagnostic options. To a smaller extent, MRI has become a successful diagnostic tool in the non-invasive imaging of the abdomen (liver, kidney, spleen, pancreas and adrenal), pelvis/hips, extremities and myocardium. Present distribution of MRI examinations at the University Hospital can be summarized as follows: brain (57.0%); spinal cord (21.4%); extremities (6.4%); myocardium (4.7%); pelvis/hips (4.2%); abdomen (3.7%); head (1.5%); chest (1.1%).

MRI imaging continues to add to the diagnostic capabilities of the University Hospital. Although MRI technology has been applied to some cases previously studied with computerized tomography (CT) scanning, the addition of this technology has not significantly eroded CT volume. This is largely because MRI's imaging capabilities, although superior to CT for many applications, are secondary to its biochemistry measurement capabilities. MRI is a significant imaging modality for the head and spine and its potential for assessing biochemistry are clear.

Since the first MRI unit was installed at UMHC in 1984, CT volume has continued to grow significantly. During 1985-86, CT volume increased from 7,836 to 8,783 annual procedures, or 12.1%, despite the emergence of 1,425 MRI exams during this same period. For the first six months of 1986-87, CT volumes continue to climb an additional 5.1% while MRI volumes are concurrently growing at an annualized rate of 9.6%.

SIGNIFICANT EMERGING APPLICATIONS

MRI technology is rapidly becoming the diagnostic option of choice for bone and soft tissue tumors. MRI is showing increasing applications for bone marrow studies, liver exams, and heart images. Bone marrow studies to examine metastasis and blood supply are emerging as significant.

Cardiac imaging is improved with MRI over the CT methods. MRI does not necessarily compete with angiography, but is able to view the heart wall in motion providing information on cardiac output.

MRI is also used to identify early chemical changes in a tumor responding to therapy and in organ transplant rejection. These capabilities are extremely important to the oncology and transplant patient population at the University Hospital. Further expected developments include a non-invasive biopsy tool which differentiates malignant from non-malignant tissue.

FUTURE DIRECTIONS

The University of Minnesota Hospital and Clinic, one of the ten finest institutions in the United States, must remain at the forefront of new technology. Our present MRI unit provides excellent clinical images but does not have the necessary field strength required to perform many special techniques involving spectroscopy. It is imperative that a magnetic resonance spectroscopy program be established at the University of Minnesota as quickly as possible so that this institution can remain at the forefront of medical imaging, particularly with respect to non-invasive methods in biomedical research and diagnosis.

The Department of Radiology, with the support of the Department of Biochemistry, is in the process of capitalizing on current magnetic resonance spectroscopy strengths presently at the University of Minnesota. During these past four years, Dr. Kamil Ugurbil of the Gray Freshwater Biological Institute has developed a very successful in vivo magnetic resonance spectroscopy research group in collaboration with faculty from the departments of Biochemistry, Cardiology, and Surgery. This effort has been extensively funded by the National Institute of Health (NIH) to the amount of \$5,000,000 over five years, and has made Dr. Ugurbil and his group a national leader in this research arena. Our objective is to draw from this tremendous research confeder-

tion in order to develop a Nuclear Magnetic Resonance Institute or Center at the University of Minnesota which can be supported at the interdepartmental and interdisciplinary level. This Institute would pursue ongoing input and support from both the basic and clinical science departments within the Medical School as well as other pertaining collegiate units.

Dr. Ugurbil's research group has begun to develop significant clinical protocols, particularly in the area of cardiac disease and transplantation. In order to take advantage of this effort, we must move quickly to concurrently develop a strong clinical site located within the University of Minnesota Hospital, as well as develop a major research institute dedicated toward in vivo imaging and spectroscopy. Accordingly, this new magnetic resonance technology combined with the focus of Dr. Ugurbil's work can promote a unique opportunity for the University of Minnesota to develop and establish a nationally-recognized interdisciplinary magnetic resonance center of excellence. In addition, this center will be complementary to the expansions that are desirable in high resolution magnetic resonance and chemistry, biochemistry, and clinical service (including radiology). This type of program is currently in place at such major institutions as Yale, Duke, Stanford, and the universities of Pennsylvania, Alabama, New Mexico and California-San Francisco. For such a program to exist at the University of Minnesota, our major advantage over other current sites is a much stronger basic science group specializing in spectroscopy. Our challenge, however, is to develop an outstanding clinical and research group which will allow us to compete with the established centers as well as stay in the forefront of this exciting and important medical break-through.

The Department of Radiology has already begun collaborating with Dr. Ugurbil's basic science research team this year by virtue of our financial support of Dr. Michael Garwood at the Gray Freshwater Biological Institute. Dr. Garwood has recently joined our department faculty to serve as the main interface between our clinical and basic science research groups. Our objective will be to develop imaging protocols and spectroscopic analyses in the research laboratory and bring these into the clinical environment for development and application. This objective and program is in concurrence with President Keller's Commitment to Focus. This program will be an interdisciplinary effort requiring the input from many aspects of the University of Minnesota. The University's Central Administration has already expressed a strong interest at the highest levels in supporting the development of this program.

NEW CLINICAL APPLICATIONS

MRI spectroscopy of high field strength magnets (15 kilogauss) has been under a great deal of investigation since 1982. This capability allows for the physiologic evaluation of tissues in this area. The focus of this program proposal stems from the belief that sound clinical applications now exist for MR spectro-

scopy and chemical shift analysis. The proposed MR unit would be acquired at 2.0 Tesla (kilogauss) and would run at 1.5 Tesla. This magnet would be dedicated to supporting our current clinical activities which are stressing our current 1.0 Tesla system to the point where it is not capable of keeping up with present clinical demand. This has happened in spite of the fact that MRI applications in the body have not been optimized here at the University of Minnesota. In addition, there exist major clinical applications which we have not been able to develop because of our limited magnet time and personnel.

The second magnet would increase the availability of this technology in rapidly developing non-neuro applications. We would anticipate expanding our current imaging program to include imaging evaluation of the heart, liver, genitourinary system (including the pelvis), female reproductive system, bone marrow, and musculoskeletal system. MR's multiplaner images allow for more accurate evaluation of diseases in these sites than ever before. In addition to these expanded imaging capabilities, there is a real need to begin a major spectroscopy program here at the University of Minnesota. Under the direction of the Department of Radiology and Dr. Ugurbil's Magnetic Resonance Spectroscopy Laboratory, we would anticipate evaluating the following problems using magnetic resonance spectroscopy:

Malignancies. Spectroscopy would be used to characterize and evaluate therapy in patients with tumors of the brain, breast, liver, kidney and musculoskeletal systems, specifically using phosphorus 31 and hydrogen spectroscopy.

Transplantation. Spectroscopy would be employed to evaluate patients with kidney, liver, heart and bone marrow transplants in an attempt to characterize the rejection phenomenon and its successful or unsuccessful treatment.

Cardiovascular. Spectroscopy would be employed to evaluate the patho-physiology and treatment of patients with heart failure and those with diseases which cause significant myocardial hypertrophy.

Musculoskeletal System. Spectroscopy can be employed to diagnose and evaluate the treatment of patients with specific enzyme deficiencies such as McArdle's Disease.

PATIENTS SERVED

The current MRI facility has served the University Hospital patient population since December 1984. The ratio of outpatient to inpatient examinations has approximated 3:2; 62% of the MRI examinations have been conducted on an outpatient basis. In 1983, it was predicted that the outpatient population would approximate 60% at this institution.



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Wednesday, December 16, 1987

12:30 P.M.*

8-106 University Hospital

COMMITTEE MEMBERS

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- II. **October 31, 1987 Year-to-Date Financial Statements (Information) pp. 6-15** Mr. Clifford Fearing
- III. **Magnetic Resonance Imaging Unit II (Endorsement) pp. 16-25** Mr. Greg Hart
- IV. **Community University Health Care Center Building Proposal (Endorsement)**** Mr. Greg Hart
- V. **Other Business**

* A buffet lunch will be served at 12:00 Noon in the Board Room

** The CUHCC Proposal is a separate attachment. Those who have already received a copy through Planning & Development are asked to bring theirs to the meeting.

*** November 30, 1987 Year-to-Date Financial Statements will be available at the meeting.

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Board of Governors Finance Committee
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ABSENT: J.E. Meilahn

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STAFF: Al Dees
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Dan Rode

CALL TO ORDER: The meeting of the Finance Committee was called to order by Mr. Robert Nickoloff at 12:17 P.M. in the Board Room (8-106 University Hospital).

MINUTES: A motion was seconded and passed to approve the minutes of the August 26, 1987 meeting of the Finance Committee as written.

JUNE 30, 1987
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1987 FINANCIAL
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RESONANCE
IMAGING UNIT II:**

Mr. Al Dees and Dr. Christopher Kuni, Radiology Department, discussed the current Magnetic Resonance Imaging services and the proposal to purchase a second MRI. Radiology currently staffs 2 full-time shifts five days per week and one shift on Saturday. Approximately 10-12 procedures are referred elsewhere each week due to lack of MRI time available. The Radiology Department proposes the purchase of a 2.0 Tesla Magnetic Resonance Imaging machine. This machine would be used primarily for magnetic resonance imaging, but would be used for spectroscopy as funding is available to pay for the procedures. The proposal includes expanding the current MRI suite by 1,000 square feet of shelled space, the addition of 3.0 FTE radiological technologists and 1.0 FTE secretary. The total estimated installation cost is \$3,600,000, specified as follows: \$2,473,867 for equipment; \$290,000 for shielding; \$171,000 for equipment access; \$66,000 for airconditioning; \$132,000 for architectural fees; and \$468,000 for actual construction.

Mr. Dees noted that this proposal is for discussion only in October, with endorsement sought in November.

**BLUE CROSS BLUE
SHIELD OF MN.
WAIVER OF
DEDUCTIBLE AND
COPAYMENT:**

In August of 1987 the University was informed by the Employee Relations Department of the State of Minnesota that the state would no longer be offering the BCBSM Aware Gold insurance plan as an option to employees for the next insurance year, 10/1/87 to 9/30/88. Since the University is a participant in the state insurance plan this was also applicable to all University employees. The decision by the state to eliminate the Aware Gold option was based on increased premiums for this type of insurance coverage which is a full 100% insurance coverage for all inpatient and outpatient services. The State replaced the Aware Gold insurance with Aware Ltd. which carries a \$680 deductible and co-insurance payment for inpatient hospitalizations. It was the opinion of UMHC management that this change in coverage would have a negative impact on UMHC in that the \$680 cost for admission would be an incentive for employees to drop BCBSM and move to other insurance carriers which either do not permit or restrict admission to UMHC. It was felt this action could be countered by providing an incentive to University employees to use UMHC. Therefore, it was decided to offer to waive the deductible and co-insurance payment to all University employees who chose the Aware Ltd. insurance plan who were subsequently hospitalized at UMHC. This offer was sent in letter form to all University employees in early September.

State officials objected to the University's action and requested that it withdraw its action or leave the state insurance plan and establish its own plan by 12/31/87. Since it is unrealistic to put together a total insurance plan for the University in the time frame provided the University has decided on November 3, 1987 to withdraw the waiver and remain in the state insurance plan. The University is continuing to pursue the development of its own insurance plan and as new details become available they will be shared with the committee.

**CUHCC/COMMUNITY
INDIGENT CARE
COMPARISONS:**

Mr. Greg Hart reported on the progress of a CUHCC replacement facility. UMHC is currently pursuing the possibility of locating the facility in a wing of Mt. Sinai Hospital. This possibility would ensure access by the same patient population. More information will be available on this option after consulting with architects.

Per the Committee's request, a comparison of charity care provided by Twin Cities hospitals was prepared and this comparison indicates that indigent care provided by UMHC is comparable to that of other hospitals in the area. Mr. Dickler noted that at the present time much of the charitable care provided by UMHC is provided to patients from CUHCC. As the Board addresses the issue of replacement facilities for CUHCC, it will also need to address whether our charitable care focus should remain at CUHCC or if it should become part of a larger strategy. These topics will continue to be discussed as the replacement facility issues for CUHCC become more focused.

**HOSPITAL PRICE
COMPARISONS:**

Mr. Greg Hart reviewed the Price Comparison Data from the Council of Hospital Corporations (CHC) 1987 Hospital Price Disclosure report. This report takes similar groups of cases and collects price and charge information for those cases. Charges at UMHC are generally 6-16% higher than the community due to educational costs and types of illnesses. When the educational component is not included, the charges would have been only 6% higher than the other other hospitals surveyed. The report shows that in 1/3 of the cases UMHC charges were less than the average and in approximately 17% of the cases UMHC charges were higher due to the severity of the cases.

Meeting of the Finance Committee
Minutes, October 28, 1987
Page Five

**FIRST QUARTER,
1987-88 BAD
DEBTS:**

Mr. Dan Rode reported the total amount recommended for bad debts for the first quarter of 1987-88 is \$949,327.60 representing 1,602 accounts. Recoveries during the period amounted to \$7,176.28, leaving a net charge-off of \$942,151.32. This amount is 1.45% of gross charges compared to a budgeted level of 1.33%.

The Finance Committee seconded and passed a motion to approve the net bad debt charge-off in the amount of \$942,151.32 for the first quarter of 1987-88 as submitted.

ADJOURNMENT: There being no further business, the Finance Committee adjourned at 2:10 P.M.

Respectfully submitted,



Kay F. Fuecker
Recording Secretary



UNIVERSITY OF MINNESOTA
TWIN CITIES

The University of Minnesota Hospital and Clinic
Harvard Street at East River Road
Minneapolis, Minnesota 55455

November 30, 1987

TO: Board of Governors Finance Committee

FROM: Clifford P. Fearing

SUBJECT: October 31, 1987 Year-to-Date Financial Statements

Enclosed for your information are the financial statements and the Report of Operations for the period ending October 31, 1987, which would have been covered at the November Finance Committee meeting. As you will see, our overall position continues to be positive and above budgeted levels.

If you have any questions with regard to the enclosed material please feel free to contact me at your convenience or raise them at the December Finance Committee meeting.



November 18, 1987

TO: Board of Governors Finance Committee
FROM: Clifford P. Fearing
SUBJECT: Report of Operations for the Period
July 1, 1987 through October 31, 1987

The Hospital's operations through the month of October continued to reflect both inpatient admissions and outpatient visit activity that were above budgeted levels. In addition, we experienced ancillary service utilization that was higher than anticipated. To highlight our position:

Inpatient Census: For the month of October, inpatient admissions totaled 1,561 or 6 above budgeted admissions of 1,555. Our overall average length of stay for the month was 8.1 days. Patient days for October totaled 12,834 and were 443 days under budget. The increase in admission levels is primarily in the area of Medicine.

To recap our year-to-date inpatient census:

	1986-87	1987-88	1987-88		%
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>	<u>Variance</u>
Admissions	6,348	6,330	6,564	234	3.7
Avg. Lnth. of Stay	8.3	8.3	7.9	.4	4.8
Patient Days	52,284	53,425	51,999	-1,426	-2.7
Avg. Daily Census	425.1	434.3	422.8	-11.5	-2.7
Percent Occupancy	71.0	74.6	72.6	-2.0	-2.7

Outpatient Census: Clinic visits for the month of October totaled 22,595 or 69 (0.3%) below budgeted visits of 22,664. The largest decrease in activity was experienced in the Family Practice clinic area. Areas which experienced actual visits with large increases over budget were A.T.E.U. and Radiation Therapy. Community University Health Care Center (CUHCC) visits for the month of October totaled 4,371 or 10 (0.2%) below budgeted visits of 4,381, while Home Health

Report of Operations - October 1987

Page 2

visits of 688 for the month were 99 (12.6%) above budgeted visits of 787.

To recap our year-to-date outpatient census:

	1986-87	1987-88	1987-88		%
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>	<u>Variance</u>
Clinic Visits	84,572	87,361	88,149	788	0.9
CUHCC Visits	14,544	16,571	12,852	662	5.4
HHA Visits	3,234	3,124	2,683	-441	-14.1

Financial Operations: The Hospital's Statement of Operations shows total revenues over expense of \$3,721,833, a favorable variance of \$4,313,619.

Patient care charges through October totaled \$86,861,500 and were .7% over budget. Routine revenue was 2.9% under budget and reflected our unfavorable patient day variance. Ancillary revenue was approximately \$1,309,500 (2.1%) above budget and reflected the favorable variance in both admissions and clinic visits. Inpatient ancillary revenue has averaged \$7,176 per admission compared to the budgeted average of \$7,220 per admission. Outpatient revenue per clinic visit has averaged \$182 compared to the budgeted average of \$184.

Operating expenditures through October totaled \$80,268,475 and were approximately \$566,656 (0.7%) under budgeted levels. The overall favorable variance relates to decreased patient care related costs (drugs and medical supplies).

Accounts Receivable: The balance in patient accounts receivable as of October 31, 1987 totaled \$82,249,971 and represented 111.30 days of revenue outstanding. The overall increase in our patient receivables in October of 4.35 days occurred primarily in the Minnesota Medical Assistance, Agency Pending, and P.H.S. Appeals categories.

Conclusion: The Hospital's overall operating position is positive and above budgeted levels. Both inpatient and outpatient census levels remain above budget. We continue to monitor our demand for service closely and make those operating changes that are necessary and appropriate.

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

EXECUTIVE SUMMARY OF FINANCIAL ACTIVITY

FOR THE PERIOD JULY 1, 1987 TO OCTOBER 31, 1987

	Budgeted	Actual	Variance Over/-Under Budget	Variance %
	-----	-----	-----	-----
Patient Care Charges	\$86,249,182	\$86,861,501	\$612,319	0.7%
Deductions from Charges	-15,612,606	-13,083,345	2,529,261	16.2%
Other Operating Revenue	1,992,287	2,255,784	263,497	13.2%
Total Operating Revenue	72,628,863	76,033,940	3,405,077	4.7%
Total Expenditures	-80,835,131	-80,268,475	566,656	0.7%
Net Operating Revenue	-8,206,268	-4,234,535	3,971,733	0.0%
Non-Operating Revenue and Expenses	7,614,482	7,956,368	341,886	4.5%
Revenue over Expense	\$-591,786	\$3,721,833	\$4,313,619	(1)
	=====	=====	=====	

(1) Variance equals 5.4 % of total budgeted revenue.

	Budgeted	Actual	Variance Over/-Under Budget	Variance %
	-----	-----	-----	-----
Admissions	6,330	6,564	234	3.7%
Patient Days	53,425	51,999	-1,426	-2.7%
Average Daily Census	434.3	422.8	-11.5	-2.7%
Average Length of Stay	8.3	7.9	-0.4	-7.8%
Percentage Occupancy	74.6%	72.6%	-2.0	-2.7%
Outpatient Clinic Visits	22,664	22,595	-69	-0.3%

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

STATEMENT OF OPERATIONS

FOR THE PERIOD JULY 1, 1987 TO OCTOBER 31, 1987

	Budgeted	Actual	Variance Over/-Under Budget	Variance %
Gross Patient Charges	\$86,249,182	\$86,861,501	\$612,319	0.7%
Deductions from Charges	15,612,606	13,083,345	-2,529,261	-16.2%
Other Operating Revenue	1,992,287	2,255,784	263,497	13.2%
Total Revenue from Operations	\$72,628,863	\$76,033,940	\$3,405,077	4.7%
Expenditures				
Salaries	\$33,983,919	\$35,031,102	\$1,047,183	3.1%
Fringe Benefits	6,435,126	6,282,593	-152,533	-2.4
Contract Compensation	3,392,232	3,350,959	-41,273	-1.2
Medical Supplies, Drugs, Blood	13,772,511	12,773,521	-998,990	-7.3
Campus Administration Expense	2,174,815	2,174,815	0	
Depreciation and Amortization	5,649,427	5,657,791	8,364	0.1
General Supplies & Expense	15,427,101	14,997,694	-429,407	-2.8
Total Expenditures	\$80,835,131	\$80,268,475	\$-566,656	-0.7%
Net Revenue from Operations	\$-8,206,268	\$-4,234,535	\$3,971,733	
Non-Operating Revenues and Expenses				
Appropriations	\$4,844,150	\$4,903,938	\$59,788	1.2%
Interest Income on Reserves	2,039,120	2,389,878	350,758	-12.5
Shared Services	128,545	51,398	-77,147	27.4
Investment Income on Trustee Held Assets	602,667	611,154	8,487	1.4
Total Non-Operating Revenues and Expenses	\$7,614,482	\$7,956,368	\$341,886	4.5%
Revenue Over Expense	\$-591,786	\$3,721,833	\$4,313,619	(1)

(1) Variance equals 5.4% of total budgeted revenue.

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

STATEMENT OF OPERATIONS

FOR THE PERIOD JULY 1, 1987 TO OCTOBER 31, 1987

Annual Budget		Budgeted	Actual	Variance Over/-Under Budget	Variance %
	Patient Care Charges				
\$70,025,500	Routine	\$24,450,326	\$23,753,116	\$-697,210	-2.9%
179,592,300	Ancillary	61,798,856	63,108,385	1,309,529	2.1
\$249,617,800	Gross Charges	\$86,249,182	\$86,861,501	\$612,319	0.7%
	Deductions from Charges				
\$27,750,800	Third Party Contractual Adjustments	\$9,588,594	\$6,894,027	\$-2,694,567	-28.1%
9,219,200	Billing Adjustments & Employee Benefits	3,145,306	3,418,149	272,843	8.7
663,800	Charitable Care	229,359	168,095	-61,264	-26.7
4,355,300	Other Contractual Adjustments	1,504,865	1,450,581	-54,284	-3.6
3,312,300	Provisions for Uncollectables	1,144,482	1,152,493	8,011	0.7
\$45,301,400	Total Deductions	\$15,612,606	\$13,083,345	\$-2,529,261	-16.2%
	Other Operating Revenue				
\$1,348,500	Food Services	\$453,184	\$482,874	\$29,690	6.6%
500,000	Parking Services	168,033	191,864	23,831	14.2%
78,700	Department Non-Patient	26,448	57,230	30,782	116.4
1,066,700	CUHCC Grants	358,481	358,928	447	0.1
1,543,700	Reference Lab Income	518,784	509,494	-9,290	-1.8
1,352,600	Pro Fees - Net Revenue	467,357	500,259	32,902	7.0
0	X-Ray Silver Sale	0	147,677	147,677	
0	Donations from Restricted Funds	0	7,458	7,458	
\$5,890,200	Total Other Revenue	\$1,992,287	\$2,255,784	\$263,497	13.2%
\$210,206,600	Total Revenue from Operations	\$72,628,863	\$76,033,940	\$3,405,077	4.7%
	Expenditures				
\$101,075,300	Salaries	\$33,983,919	\$35,031,102	\$1,047,183	3.1%
19,139,500	Fringe Benefits	6,435,126	6,282,593	-152,533	-2.4
1,960,300	Academic Contracts	653,433	653,433	0	0.0
5,533,100	Resident Contracts	1,844,366	1,844,366	0	0.0
2,683,300	Physician Compensation	894,433	853,160	-41,273	-4.6
\$130,391,500	Total Salary, F.B. & Fees	\$43,811,277	\$44,664,654	\$853,377	1.9%
2,106,000	Laundry & Linen	731,788	770,542	38,754	5.3%
1,688,200	Raw Food	579,028	557,890	-21,138	-3.7
20,236,500	Drugs	6,962,534	5,956,225	-1,006,309	-14.5
5,853,500	Blood & Blood Derivatives	2,013,944	2,116,703	102,759	5.1
13,939,600	Medical Supplies	4,796,033	4,700,593	-95,440	-2.0
4,254,600	Utilities	1,437,222	1,551,165	113,943	7.9
1,007,900	Insurance	338,720	300,961	-37,759	-11.1
2,902,200	Rental	967,400	1,030,294	62,894	6.5
4,252,100	Maintenance & Repair	1,428,984	1,340,182	-88,802	-6.2
1,475,700	Communications	495,932	543,625	47,693	9.6
0	Gain on Disposal of Assets	0	-38,500	-38,500	
6,471,400	Campus Administration Expense	2,174,815	2,174,815	0	
16,693,600	Depreciation and Amortization	5,649,427	5,657,791	8,364	0.1
10,428,000	Interest	3,534,550	3,332,866	-201,684	-5.7
17,596,200	General Supplies & Expense	5,913,477	5,608,669	-304,808	-5.2
\$239,297,000	Total Expenditures	\$80,835,131	\$80,268,475	\$-566,656	-0.7%
\$-29,090,400	Net Revenue from Operations	\$-8,206,268	\$-4,234,535	\$3,971,733	
	Non-Operating Revenue and Expenses				
\$14,414,300	Appropriations & Support	\$4,844,150	\$4,789,846	\$-54,304	-1.1%
0	Accrued Interest on Appropriation	0	114,092	114,092	
5,517,900	Interest Income on Reserves	2,039,120	2,389,878	350,758	17.2
382,500	Shared Services	128,545	51,398	-77,147	-60.0
1,808,000	Investment Income Held by Trustee	602,667	611,154	8,487	1.4
\$22,122,700	Total Non-Operating Revenue and Expenses	\$7,614,482	\$7,956,368	\$341,886	4.5%
\$-6,967,700	Revenue Over Expense	\$-591,786	\$3,721,833	\$4,313,619	(1)

(1) Variance equals 5.4% of total budgeted revenue.

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

OPERATING CASH FLOW

FOR THE PERIOD JULY 1, 1986 TO OCTOBER 31, 1987

Source of Funds

Beginning Operating Cash Balance		\$34,475
Net Income from Operations	\$-4,234,535	
Non-Operating Revenue	7,956,368	

Excess of Revenue over Expense		3,721,833
Items not Requiring the Outlay of Cash:		
Depreciation		5,657,791
University Support: G & A		2,174,815
University Support: KE Utilities		117,398
Decrease in Other Receivables		491,084
Decrease in Inventories		7,358
Deferred Third Party Reimbursement		179,583
Renewal Project Interest Expense		3,106,805
Transfer for PCN Liability Payment		1,058,268

Total Funds Provided from Operations		\$16,549,410

Funds Applied

Transfers to Plant:		
Increase in Capital Expenditures	\$4,809,827	
Decrease in Capital Encumbrances	-188,525	
Total Transfers to Plant from Operations		\$4,621,302
Increase in Accounts Receivable		6,384,055
Increase in Prepaid Expenses		680,546
Decrease in Accrued Expenses		302,965
Gain on Disposal of Assets		38,500
Third Party Liability Transfer		173,057
Investment Income - Trustee Held Assets		611,154
Transfer to Reserves - Bond Retirement		876,668
Transfer to Reserves - Bond Interest Payable		3,008,645
Miscellaneous		40,052

Total Funds Applied		\$16,736,944

Operating Cash Made Available from Operations

\$-187,534
=====

Current Cash Summary

Operating Cash		\$-187,534
Reserve Cash for Liability to Third Party Payors		14,478,062
Unrealized Appropriation Cash		9,462,854
Reserve Cash for Short Term Debt Retirement		2,500,000
Reserve Cash for Bond Interest Payment		2,890,185

		29,143,567
Less Interest Income on Reserves		-2,503,970

Total Current Cash		\$26,639,597
		=====

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

BALANCE SHEETS

OCTOBER 31, 1987 AND JUNE 30, 1987

ASSETS

LIABILITIES AND FUND BALANCES

	10/31/87	6/30/87		10/31/87	6/30/87
	-----	-----		-----	-----
CURRENT ASSETS			CURRENT LIABILITIES		
Operating Cash	\$-2,691,504	\$34,475	Accounts Payable	\$3,888,414	\$6,101,515
Reserve Cash- Third Party Payable	14,478,062	14,305,005	Payable to Third Party Contr. Payors	14,478,062	14,305,005
Unrealized Appropriation Cash	9,462,854	0	Salaries, Wages and Payroll Taxes	6,716,695	7,080,113
Reserve Cash- Short Term Debt	2,500,000	2,500,000	Accrued Vacation	6,576,827	6,706,164
Reserve Cash-Bond Interest Payable	2,890,185	4,214,376	Accrued Professional Fees and Physician Compensation	1,930,456	1,625,515
Accounts Receivable			Contracts Payable	1,934,296	920,738
Patient Receivables	82,249,971	72,366,775	Interest Payable	2,931,897	4,263,164
Other Receivables	1,527,388	2,018,472	Current Portion of Long-Term Debt	3,785,080	3,796,447
	-----	-----	Promissory Notes Payable	2,500,000	2,500,000
Less Allowances for Losses in Collection	-5,446,612	-5,577,999		-----	-----
Less Allowances for Discounts to Third Party Payors	-17,254,389	-13,623,861			
	-----	-----	TOTAL CURRENT LIABILITIES	\$44,741,727	\$47,298,661
	61,076,358	55,183,387			
Trustee Held Assets	0	1,020,755			
Inventories of Drugs & Supplies	4,708,334	4,863,369			
Prepaid Expenses	1,073,691	393,145			
Silver Flake	147,677	0			
	-----	-----			
TOTAL CURRENT ASSETS	\$93,645,657	\$82,514,512			
			LONG-TERM DEBT, LESS CURRENT PORTION	\$180,053,514	\$182,896,903
BOARD DESIGNATED ASSETS:					
Board Designated Assets Available for Assignment					
Cash & Investments	\$59,629,245	\$56,443,170			
Accrued Interest	1,144,130	605,020			
	-----	-----			
	60,773,375	57,048,190			
Cash & Investments Assigned to Construction Projects	7,732,376	7,495,376			
	-----	-----			
TOTAL BOARD DESIGNATED ASSETS	\$68,505,751	\$64,543,566			
DEFERRED THIRD PARTY REIMBURSEMENT	\$9,992,656	\$10,172,239			
OTHER ASSETS	258,190	258,189			
LAND, BUILDINGS & EQUIPMENT					
Land, Buildings & Improvements	\$180,833,855	\$180,359,060			
Equipment	74,743,149	68,008,620			
	-----	-----			
	255,577,004	248,367,680	UNRESTRICTED FUND BALANCE	\$184,930,431	\$169,374,794
Less Accumulated Depreciation	-72,710,356	-67,640,664		-----	-----
	-----	-----			
	182,866,648	180,727,016			
Construction in Progress	4,753,843	8,136,413			
	-----	-----			
TOTAL LAND, BUILDINGS & EQUIPMENT	\$187,620,491	\$188,863,429			
TRUSTEE HELD ASSETS	\$47,734,464	\$51,195,164			
DEFERRED DEBT EXPENSE	\$1,968,463	\$2,023,259			
	-----	-----			
	\$409,725,672	\$399,570,358		\$409,725,672	\$399,570,358
	=====	=====		=====	=====
RESTRICTED ASSETS			RESTRICTED FUND BALANCES		
			Fund Balances		
Cash and Investments	\$5,088,708	\$4,856,396	Endowment Funds	\$1,883,807	\$1,846,730
	-----	-----	Gift Funds	3,204,901	3,009,666
				-----	-----
				\$5,088,708	\$4,856,396
				-----	-----

UNIVERSITY OF MINNESOTA HOSPITAL & CLINIC

STATEMENT OF CHANGES IN FUND BALANCE

FOR THE PERIOD JULY 1, 1987 TO OCTOBER 31, 1987

	OPERATING FUND	BOARD DESIGNATED FUND	TRUSTEE & PLANT FUND	TOTAL UNRESTRICTED FUNDS
UNRESTRICTED FUNDS				
Beginning Balance	\$33,979,528	\$57,048,190	\$78,347,076	\$169,374,794
Net Income				
Excess of Revenue over Expense	5,575,640			
Interest Income on Reserves		2,389,878		
Accrued Interest on Appropriations		114,092		
Depreciation Expense			-5,657,791	
Gain on Disposal of Assets			38,500	
Interest Expense			650,360	
Interest Income on Trustee Held Fund			611,154	
Extraordinary Item				
Total Income				3,721,833
Less Expense				
Unrealized Appropriation Revenue	9,462,854			9,462,854
University Support: G & A	2,174,815			2,174,815
K/E Utilities	117,398			117,398
Transfers Between Funds				
Major Building Projects- Hospital Only		-400,000	400,000	
Capital Expenditures	-4,411,695		4,411,695	
Capital Encumbrance Change	188,525		-188,525	
Major Equipment Requisition	-343,532		343,532	
Bond Interest Payment	5,081,357	-4,871,950	-209,407	
Bond Principal Sinking Fund	-876,668	876,668		
Short Term Note Funding	2,500,000	-2,500,000		
Bond Interest Expense Funding	-118,460	118,460		
Prior Year End Bond Interest Transfer	-4,214,376	4,214,376		
Reimbursement from Trustee - Bond Interest		4,841,929	-4,841,929	
PCN liability payment	1,058,268	-1,058,268		
Increase in Restricted Gift Fund				
Commitment to Plant			26,328	26,328
Unrestricted Donation			50,000	50,000
Adjustments to Hospital Shared Buildings			2,409	2,409
Ending Balance	\$50,173,654	\$60,773,375	\$73,983,402	\$184,930,431

RESTRICTED FUNDS	Gift	Endowment	Total
Beginning Balance	\$3,009,666	\$1,846,730	\$4,856,396
Income	195,235	37,077	232,312
Ending Balance	\$3,204,901	\$1,883,807	\$5,088,708

ACCOUNTS RECEIVABLE HIGHLIGHTS
OCTOBER 31, 1987

Category	Amount	+ or (-) Prev. mo.	% Change	+ or (-) 6/30/87	% Change	10/31/87 Days
Total	\$82,132,887 ^a	\$3,178,409	4.03%	\$9,883,255	13.68%	111.30 ^a
Inhouse	11,003,936 ^a	1,423,316	14.86%	1,813,131	19.73%	14.91 ^a
DSNFB ^b	14,095,495 ^a	3,871,505	37.87%	4,133,684	41.50%	19.10 ^a
	- 2,638,936					
	- 8,020,773					
	- 2,330,444					
	- 1,105,342					
Collections	5,187,797	(49,013)	(0.94)%	(226,028)	(4.18)%	7.04
Follow-up	5,059,333	126,921	2.57%	(5,015)	(0.10)%	6.85
Net DAR	46,786,326 ^a	(2,194,320)	(4.48)%	4,167,483	9.78%	63.40 ^a

a. Figures shown are gross dollars or days. They do not reflect contractual allowances or discounts (ie. Net DAR after adjustment would be approximately \$36,961,000 or 50.09 days.)

b. Discharge not final billed.

Significant Changes

- While the Net DAR decreased 4.48% in October, a systems change in DRG grouper software coupled with a high census at the end of the month resulted in a receivable increase totaling \$3,178,409. Another change experienced in October was the introduction of new out patient Medicare billing requirements. These requirements have forced UMHC to bill manually. The billing also requires manual coding by Medical Records. At month end we estimate that approximately \$400T was in the misc. hold waiting for this manual processing.
- Increases in the accounts receivable Net DAR were again experienced in the Minnesota Medicaid Category \$919T. As noted last month UMHC has been working with a number of parties at the State for some relief to this problem. An inhouse audit is also under way to reconcile UMHC's accounts with the State's. The only other category with a significant change was our pending agency category. \$361T, an increase that is essentially seasonal.
- Decreases during the month included our External Audit Category \$411,149; Medicare \$1.7M; Blue Cross \$985T; GAMC \$166T; Out-of-State Medicaid \$483T and Special Transplants \$177T.



UNIVERSITY OF MINNESOTA
TWIN CITIES

The University of Minnesota Hospital and Clinic
Harvard Street at East River Road
Minneapolis, Minnesota 55455

December 9, 1987

TO: Members, Finance Committee
FROM: Robert Dickler *RD*
Hospital Director
SUBJECT: Magnetic Resonance Imaging (MRI) Project

Mr. Al Dees and Dr. Christopher Kuni presented a proposal for an additional MRI unit for information at both the October Finance and Planning and Development Committee meetings.

We are submitting this proposal for consideration and approval at your December 16th meeting. Please note that we have added a brief section on financing, and are recommending that this project be funded from our reserves.

If you have any additional questions, please don't hesitate to contact me.

RD/kff

Attachment



UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Radiology
Medical School
Box 292 UMHC
420 Delaware Street S.E.
Minneapolis, Minnesota 55455

**PROPOSAL FOR A SECOND MRI FACILITY
UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC**

Department of Radiology
University of Minnesota Hospital and Clinic
October 1987

PROPOSAL FOR A SECOND MRI FACILITY
UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

CURRENT MRI PROGRAM AT UMHC

During the past six months, the Magnetic Resonance Imaging volume has averaged 206 cases per month, or approximately 10 cases each day. Since the average case requires between 60-90 minutes to complete, our current volume requires a 12-14 hour workday. This volume has been obtained without specifically advertising or promoting MR throughout the Hospital. Currently, 6-8 patients each day, or 80%, require imaging of the brain or spine. This has transpired without a strong neurology program. After a new Neurology department chairman is appointed, we anticipate even greater demand for this aspect of MR imaging.

In addition, we have not optimally utilized MR for imaging the abdomen. We anticipate using a major portion of the second MR system's time on the large number of patients with malignancies and cardiovascular diseases presently treated at the University of Minnesota. MR has been shown to be the most effective method for evaluating the liver in patients with suspected malignancies, and currently it has become a very important modality in staging patients with cancers of the kidneys, bladder, prostate and female endocrine system. MR may prove to be the most sensitive modality for evaluating the skeletal system in patients with suspected metastatic disease and it is already the best modality for evaluating tumors of the musculoskeletal system. Many of these studies have not been pursued at this hospital simply due to a lack of capacity on our present system.

The current strength of the magnet (1.0 Tesla) limits types of state-of-the-art procedures which can be performed. By adding a machine with a higher field strength (2.0 Tesla), we will be able to do patients more quickly, improve our imaging of the brain and spinal cord, and begin to develop spectroscopy which cannot be performed on the current unit. By providing these services, we will place the University of Minnesota at the cutting edge of this technology which should improve our image and increase our referrals to the University of Minnesota Hospital.

PROPOSAL

Purchase a computerized MRI Unit with a 2.0 Tesla (20 kilogauss) magnet.

Expand the current MRI suite on the first floor of Unit J by finishing 1,000 square feet of shelled space immediately adjacent.

The estimated cost of this proposal is:

Equipment	\$2,473,867
Construction	<u>1,126,133</u>
	\$3,600,000

BUDGET IMPACT

Staffing Requirements

Acquisition of an additional MRI unit will require an additional 3.0 FTE radiologic technologists and 1.0 FTE secretary to cover one and one-half shifts. Annual salary and fringe benefits for this additional staff are anticipated at \$107,950.

Annual Operating Expenses

Annual marginal operating expenses are projected at \$694,310 and include marginal salaries and fringe benefits (\$107,950), film (\$24,000), cryogenes (\$37,000), magnetic tape (\$22,500), service expenses (\$210,000), general supplies (\$15,000), utilities (\$50,000), interest expense (\$198,696) and funded depreciation shortfall (\$29,164).

Projected Procedure Volumes/Charges

Growth in patient load is anticipated for several reasons. First, increased utilization of MR for non-neurologic disease is now a reality, especially in patients with cardiovascular, hepatic, musculoskeletal and malignant disorders. Second, development of spectroscopy as a non-invasive method of evaluating response of tumors to therapy is extremely applicable in this institution. Finally, ability to accommodate patients on a second system which are now being referred to other MR centers represents a real need.

Accordingly, marginal volume increase resulting from acquisition of a second MRI system is projected at 75% for established MRI procedures and 25% for new spectroscopy procedures. This increase is the result of two marginal sources: (1) additional exam volumes due to increased scheduling of machine time availability; and (2) emergence of new spectroscopy-related exam volumes.

Additional exam volume for established MRI procedures due to new machine time availability will approximate a 75% growth rate in the following areas:

<u>MRI Exam Area</u>	<u>1st Unit 1987-88 Volumes</u>	<u>2nd Unit Annual Volumes</u>	<u>Revised Annual Volumes</u>
Brain	1,622	1,217	2,839
Spinal Cord	539	404	943
Extremities	187	140	327
Myocardium	135	101	236
Pelvis/Hips	123	92	215
Abdomen	91	68	159
Head	43	32	75
Chest	33	25	58
	<u>2,773</u>	<u>2,079</u>	<u>4,852</u>

This represents a marginal volume increase of 2,079 exams, or \$1,351,350 (\$650 per exam) in additional billable revenues.

To complement this increase in established exam volumes, the availability of spectroscopy and chemical shift analysis procedures are projected to result in the following new exam volumes:

<u>Exam Type</u>	<u>2nd Unit Annual Volumes</u>
Brain Spectroscopy	374
Myocardial Spectroscopy	33
Hepatic Spectroscopy	33
Muskulo/Skeletal Spectroscopy	126
Gall Bladder Spectroscopy	33
Renal Spectroscopy	95

This represents a marginal volume increase of 694 exams, or \$902,200 (\$1,300 per exam) in additional billable revenues.

FINANCIAL RECOMMENDATION

Utilize Hospital reserve funds to purchase equipment and to pay construction costs. This project is included in the approved 1987-88 capital budget.

MRI-II FINANCIAL ANALYSIS

Summary

Purchase Price	\$2,473,867
Expected Life	5 years
Annual Depreciation	\$494,773
Construction Costs	\$1,126,133
Expected Life	10 years
Annual Depreciation	\$112,613
Projected Incremental Annual Revenue	\$2,091,794
Projected Incremental Annual Operating Expense	\$1,301,696
Payback Period	2.58 years

I. Incremental Annual Volume

MRI	2,079
Spectroscopy	694

II. Incremental Annual Revenue

A. Total Charges:

MRI	\$1,351,350
Spectroscopy	\$902,200

B. Net Revenue:

<u>Payer</u>	<u>% Mix</u>	<u>Charges</u>	<u>Reimburse. %</u>	<u>Revenue</u>
Agency	9.6	\$217,980	86.9	\$189,337
BC/AWARE	11.7	\$264,932	88.8	\$235,259
HMOs	3.2	\$ 73,492	85.0	\$ 62,468
Commercial	15.6	\$354,075	100.0	\$354,075
Medicare	15.2	\$344,775	90.2	\$310,987
MA/GAMC	8.5	\$192,575	75.1	\$144,663
Self-Pay	27.5	\$609,517	98.7	\$601,411
Other	8.7	\$196,204	98.7	\$193,594
Total Annual Revenue				\$2,091,794

III. Incremental Annual Operating Expense

Salaries/Fringe Benefits	\$107,950
Maintenance	\$210,000
Depreciation	\$607,386
Supplies	\$148,500
Funded Depr. Shortfall	\$ 29,164
Interest	\$198,696
Total	\$1,301,696

IV. Net Payback Period

Purchase Price/(Incremental Revenue - Incremental Expense + Depreciation Expense) = 2.58 years

ADDENDUM 1

PROPOSAL FOR A SECOND MRI FACILITY UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

INTRODUCTION

CLINICAL BACKGROUND AND HISTORY

In 1984, the University of Minnesota Hospital and Clinic joined over one hundred other health care institutions in providing a new and exciting non-invasive imaging technology to its patients and referring medical staff. Published research continues to indicate that Magnetic Resonance Imaging (MRI) is recognized as a clinically accepted diagnostic tool for certain specialty applications and anatomical images. Developments to date indicate that MRI is the preferred method of imaging the brain, brainstem and spinal cord. MRI images are unobstructed by bone, allowing for viewing of the posterior fossa of the brainstem and improved imaging of the pituitary, plus MRI can image along the sagittal plane providing a clear image of the spinal cord for assessing spinal cord tumors, injury or disease. MRI imaging of the spinal cord makes it the preferred diagnostic tool for back injury or myelopathy including nerve root compression associated with disc disease.

MRI visualization of the pelvis, urinary/bladder, and prostate have also been established as clinically proven diagnostic options. To a smaller extent, MRI has become a successful diagnostic tool in the non-invasive imaging of the abdomen (liver, kidney, spleen, pancreas and adrenal), pelvis/hips, extremities and myocardium. Present distribution of MRI examinations at the University Hospital can be summarized as follows: brain (57.0%); spinal cord (21.4%); extremities (6.4%); myocardium (4.7%); pelvis/hips (4.2%); abdomen (3.7%); head (1.5%); chest (1.1%).

MRI imaging continues to add to the diagnostic capabilities of the University Hospital. Although MRI technology has been applied to some cases previously studied with computerized tomography (CT) scanning, the addition of this technology has not significantly eroded CT volume. This is largely because MRI's imaging capabilities, although superior to CT for many applications, are secondary to its biochemistry measurement capabilities. MRI is a significant imaging modality for the head and spine and its potential for assessing biochemistry are clear.

Since the first MRI unit was installed at UMHC in 1984, CT volume has continued to grow significantly. During 1985-86, CT volume increased from 7,836 to 8,783 annual procedures, or 12.1%, despite the emergence of 1,425 MRI exams during this same period. For the first six months of 1986-87, CT volumes continue to climb an additional 5.1% while MRI volumes are concurrently growing at an annualized rate of 9.6%.

SIGNIFICANT EMERGING APPLICATIONS

MRI technology is rapidly becoming the diagnostic option of choice for bone and soft tissue tumors. MRI is showing increasing applications for bone marrow studies, liver exams, and heart images. Bone marrow studies to examine metastasis and blood supply are emerging as significant.

Cardiac imaging is improved with MRI over the CT methods. MRI does not necessarily compete with angiography, but is able to view the heart wall in motion providing information on cardiac output.

MRI is also used to identify early chemical changes in a tumor responding to therapy and in organ transplant rejection. These capabilities are extremely important to the oncology and transplant patient population at the University Hospital. Further expected developments include a non-invasive biopsy tool which differentiates malignant from non-malignant tissue.

FUTURE DIRECTIONS

The University of Minnesota Hospital and Clinic, one of the ten finest institutions in the United States, must remain at the forefront of new technology. Our present MRI unit provides excellent clinical images but does not have the necessary field strength required to perform many special techniques involving spectroscopy. It is imperative that a magnetic resonance spectroscopy program be established at the University of Minnesota as quickly as possible so that this institution can remain at the forefront of medical imaging, particularly with respect to non-invasive methods in biomedical research and diagnosis.

The Department of Radiology, with the support of the Department of Biochemistry, is in the process of capitalizing on current magnetic resonance spectroscopy strengths presently at the University of Minnesota. During these past four years, Dr. Kamil Ugurbil of the Gray Freshwater Biological Institute has developed a very successful in vivo magnetic resonance spectroscopy research group in collaboration with faculty from the departments of Biochemistry, Cardiology, and Surgery. This effort has been extensively funded by the National Institute of Health (NIH) to the amount of \$5,000,000 over five years, and has made Dr. Ugurbil and his group a national leader in this research arena. Our objective is to draw from this tremendous research confeder-

tion in order to develop a Nuclear Magnetic Resonance Institute or Center at the University of Minnesota which can be supported at the interdepartmental and interdisciplinary level. This Institute would pursue ongoing input and support from both the basic and clinical science departments within the Medical School as well as other pertaining collegiate units.

Dr. Ugurbil's research group has begun to develop significant clinical protocols, particularly in the area of cardiac disease and transplantation. In order to take advantage of this effort, we must move quickly to concurrently develop a strong clinical site located within the University of Minnesota Hospital, as well as develop a major research institute dedicated toward in vivo imaging and spectroscopy. Accordingly, this new magnetic resonance technology combined with the focus of Dr. Ugurbil's work can promote a unique opportunity for the University of Minnesota to develop and establish a nationally-recognized interdisciplinary magnetic resonance center of excellence. In addition, this center will be complementary to the expansions that are desirable in high resolution magnetic resonance and chemistry, biochemistry, and clinical service (including radiology). This type of program is currently in place at such major institutions as Yale, Duke, Stanford, and the universities of Pennsylvania, Alabama, New Mexico and California-San Francisco. For such a program to exist at the University of Minnesota, our major advantage over other current sites is a much stronger basic science group specializing in spectroscopy. Our challenge, however, is to develop an outstanding clinical and research group which will allow us to compete with the established centers as well as stay in the forefront of this exciting and important medical break-through.

The Department of Radiology has already begun collaborating with Dr. Ugurbil's basic science research team this year by virtue of our financial support of Dr. Michael Garwood at the Gray Freshwater Biological Institute. Dr. Garwood has recently joined our department faculty to serve as the main interface between our clinical and basic science research groups. Our objective will be to develop imaging protocols and spectroscopic analyses in the research laboratory and bring these into the clinical environment for development and application. This objective and program is in concurrence with President Keller's Commitment to Focus. This program will be an interdisciplinary effort requiring the input from many aspects of the University of Minnesota. The University's Central Administration has already expressed a strong interest at the highest levels in supporting the development of this program.

NEW CLINICAL APPLICATIONS

MRI spectroscopy of high field strength magnets (15 kilogauss) has been under a great deal of investigation since 1982. This capability allows for the physiologic evaluation of tissues in this area. The focus of this program proposal stems from the belief that sound clinical applications now exist for MR spectro-

scopy and chemical shift analysis. The proposed MR unit would be acquired at 2.0 Tesla (kilogauss) and would run at 1.5 Tesla. This magnet would be dedicated to supporting our current clinical activities which are stressing our current 1.0 Tesla system to the point where it is not capable of keeping up with present clinical demand. This has happened in spite of the fact that MRI applications in the body have not been optimized here at the University of Minnesota. In addition, there exist major clinical applications which we have not been able to develop because of our limited magnet time and personnel.

The second magnet would increase the availability of this technology in rapidly developing non-neuro applications. We would anticipate expanding our current imaging program to include imaging evaluation of the heart, liver, genitourinary system (including the pelvis), female reproductive system, bone marrow, and musculoskeletal system. MR's multiplaner images allow for more accurate evaluation of diseases in these sites than ever before. In addition to these expanded imaging capabilities, there is a real need to begin a major spectroscopy program here at the University of Minnesota. Under the direction of the Department of Radiology and Dr. Ugurbil's Magnetic Resonance Spectroscopy Laboratory, we would anticipate evaluating the following problems using magnetic resonance spectroscopy:

Malignancies. Spectroscopy would be used to characterize and evaluate therapy in patients with tumors of the brain, breast, liver, kidney and musculoskeletal systems, specifically using phosphorus 31 and hydrogen spectroscopy.

Transplantation. Spectroscopy would be employed to evaluate patients with kidney, liver, heart and bone marrow transplants in an attempt to characterize the rejection phenomenon and its successful or unsuccessful treatment.

Cardiovascular. Spectroscopy would be employed to evaluate the patho-physiology and treatment of patients with heart failure and those with diseases which cause significant myocardial hypertrophy.

Musculoskeletal System. Spectroscopy can be employed to diagnose and evaluate the treatment of patients with specific enzyme deficiencies such as McArdle's Disease.

PATIENTS SERVED

The current MRI facility has served the University Hospital patient population since December 1984. The ratio of outpatient to inpatient examinations has approximated 3:2; 62% of the MRI examinations have been conducted on an outpatient basis. In 1983, it was predicted that the outpatient population would approximate 60% at this institution.